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Henry R. Darwin
Director

CERTIFIED MAIL - Return Receipt Requested

March 7, 2014

Emile Schmid, Senior Project Engineer
City of Apache Junction
575 East Baseline Avenue
Apache Junction, AZ 85119

Re: MS4 Audit; Permit No. AZG2002-002

Dear Mr. Schmid:

Enclosed is a copy of the Municipal Separate Storm Sewer System Compliance Audit Report for the City of Apache Junction. The audit was completed on July 9-10, 2013, by the Arizona Department of Environment, with participation and cooperation from your staff.

The purpose of the audit was to assess the City's compliance with the Arizona Pollutant Discharge Elimination System General Permit for Small Municipal Separate Storm Sewer Systems (MS4s) to Waters of the U.S. (the Permit), under the terms and conditions of the Permit.

The permit establishes minimum control measures for a stormwater pollution control and management program. The audit reviewed implementation of the City's Storm Water Management Plan (SWMP) in light of the requirements established in the Permit. The audit included document reviews, interviews with City program managers, and field verification inspections. The audit report identified several elements of the City's MS4 Program that were particularly notable:

1. The City developed and finalized an ordinance in 2007 that prohibits illicit discharges to the Apache Junction storm water system. This ordinance empowers the City to take appropriate action to eliminate illicit discharges, provides enforcement strategies to address illegal dumping into the drainage system and provides for corrective actions.
2. In 2006 the City hosted a volunteer wash/stream cleanup event to educate and engage the public in helping to improve the quality of the Middle Gila watershed through litter control.
3. The City maintains a website that includes storm water program information to augment public education and outreach efforts regarding storm water pollution prevention.
4. The City has created and distributed pamphlets that help promote construction site control standards, floodplain and storm water standards, post-construction storm water control standards, and STORM (Stormwater Outreach for Regional Municipalities).

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The following potential permit violations and program deficiencies are considered, by the Audit Team, to be the most significant:

1. The City's Storm Water Management Program (SWMP) does not accurately reflect current program components.
2. The City has not developed written procedures for identifying, locating, or eliminating illicit discharges.
3. The City's IDDE program has not identified the location of all outfalls from the storm sewer system.
4. The City has not implemented an outfall inspection program.
5. The City does not have a system in place to record illicit discharge incident information.
6. The City has not developed policies and procedures to review site plans for construction activities.
7. The City has not adequately developed and implemented procedures for site inspections and enforcement of BMP control measures at construction sites.
8. Improper pollution prevention practices were noted during site visits at municipal facilities.
9. The City has not conducted pollution prevention/good housekeeping training for municipal employees.

ADEQ encourages the City to use the Audit Report findings as a guide for program improvements. Please respond to the audit report by May 31, 2014, with any comments and any updates or proposed updates to address potential deficiencies on program enhancements. If you have any concerns or questions or wish to set up a meeting with ADEQ to discuss the results of this audit, please contact me directly at (602) 771-4508.

Sincerely,

A handwritten signature in cursive script that reads "Joanna Rhymer for Chris Henninger".

Chris Henninger, Environmental Program Supervisor
Water Quality Surface Water Stormwater and General Permits Unit
Arizona Department of Environmental Quality

SWGP14-0025

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Executive Summary

On July 9-10, 2013, the Arizona Department of Environmental Quality (ADEQ) conducted an audit of the City of Apache Junction Municipal Separate Storm Sewer System (MS4) program.

This audit report identifies potential permit violations, program deficiencies, and positive attributes and is not a formal finding of violation. Program deficiencies are areas of concern for successful program implementation. Positive attributes indicate progress in implementing the program.

Several elements of the City of Apache Junction's program are particularly notable:

1. The City developed and finalized an ordinance in 2007 that prohibits illicit discharges to the Apache Junction stormwater system. This ordinance empowers the City to take appropriate action to eliminate illicit discharges, provides enforcement strategies to address illegal dumping into the drainage system and provides for corrective actions.
2. In 2006 the City hosted a volunteer wash/stream cleanup event to educate and engage the public in helping to improve the quality of the Middle Gila watershed through litter control.
3. The City maintains a website that includes storm water program information to augment public education and outreach efforts regarding storm water pollution prevention.
4. The City has created and distributed pamphlets that help promote construction site control standards, floodplain and storm water standards, post-construction storm water control standards, and STORM (Stormwater Outreach for Regional Municipalities).

The following potential permit violations and program deficiencies are considered, by the Audit Team, to be the most significant:

1. The City's Storm Water Management Program (SWMP) does not accurately reflect current program components.
2. The City has not developed written procedures for identifying, locating, or eliminating illicit discharges.
3. The City's IDDE program has not identified the location of all outfalls from the storm sewer system.
4. The City has not implemented an outfall inspection program.
5. The City does not have a system in place to record illicit discharge incident information.
6. The City has not developed policies and procedures to review site plans for construction activities.
7. The City has not adequately developed and implemented procedures for site inspections and enforcement of BMP control measures at construction sites.
8. Improper pollution prevention practices were noted during site visits at municipal facilities.
9. The City has not conducted pollution prevention/good housekeeping training for municipal employees.

1.0 Introduction

On July 9-10, 2013, the Arizona Department of Environmental Quality (ADEQ) conducted an audit of the City of Apache Junction Municipal Separate Storm Sewer System (MS4) program.

The City of Apache Junction is located in Maricopa and Pinal Counties, and occupies an area of approximately 34.2 square miles. According to representatives from the City of Apache Junction, there are approximately 35,000 permanent residents, and that number nearly doubles with the addition of winter visitors. Apache Junction is bounded by the Superstition Mountains (a federal wilderness area) on the east, the Goldfield Mountains on the north, and the City of Mesa on the West. There are numerous washes, riverbeds and three floodplains within the City of Apache Junction. The watershed is the Middle Gila.

1.1 Permit and Stormwater Management Plan

Discharges from the City of Apache Junction (hereinafter, the City or Permittee) MS4 are regulated under the provisions of the Arizona Pollutant Discharge Elimination System program (Arizona Revised Statutes, Title 49, Chapter 2, Article 3.1 and Arizona Administrative Code, Title 18, Chapter 9, Article 9), Permit No. AZG2002-002, *State of Arizona Pollutant Discharge Elimination System General Permit for Discharge from Small Municipal Separate Storm Sewer Systems (MS4) to Waters of the United States*, (hereinafter, the Permit), effective December 19, 2002. The Permit expired on December 19, 2007, but is administratively continued until ADEQ re-issues the Permit.

The Permit authorizes the City to discharge municipal stormwater runoff and allows certain non-stormwater discharges from its Small MS4 to Waters of the United States, under the Permit terms and conditions. Part V, *Storm Water Management Program (SWMP)*, Section A of the Permit requires the City to develop, implement, and enforce a SWMP designed to reduce the discharge of pollutants from the regulated Small MS4 to the maximum extent practicable (MEP) to protect water quality.

Pursuant to Part V of the Permit, the Permittee developed a Stormwater Management program (last revised on May 15, 2006), and was first permitted in March of 2003. At the time of the audit, the City was in Permit year ten.

1.2 Purpose of Audit

The purpose of the audit was to obtain information to assess the City's compliance with the requirements of the Permit and associated SWMP, as well as, the implementation status of the City's SWMP. The Audit Schedule is presented in Appendix A. The Exhibit Log and Photograph Log are provided in Appendices B and C, respectively. Copies of the Permit and the SWMP are included in Appendices D and E, respectively.

1.3 Program Areas Evaluated

As a regulated Small MS4, the City is required to implement the following six (6) minimum control measures (MCMs):

- | | |
|-------|---|
| MCM 1 | Public Education and Outreach on Stormwater Impacts |
| MCM 2 | Public Involvement/Participation |

MCM 3	Illicit Discharge Detection and Elimination
MCM 4	Construction Site Stormwater Runoff Control
MCM 5	Post-Construction Stormwater Management in New Development and Redevelopment
MCM 6	Pollution Prevention/Good Housekeeping for Municipal Operations

This program evaluation focused specifically on the following three (3) MCMs of the Permit and the City's corresponding MS4 program: (1) Illicit Discharge Detection and Elimination; (2) Pollution Prevention/Good Housekeeping; and (3) Construction Site Storm Water Runoff Control. The other MCMs were briefly discussed as part of other program elements during the course of the evaluation, but were not specifically addressed. As such, this program evaluation was not intended to be a comprehensive evaluation of all components and requirements associated with the entire MS4 program.

1.4 Audit Process

ADEQ staff obtained information through a series of interviews with City of Apache Junction representatives, along with site visits, record reviews, and field verification activities. It should be noted that this audit report does not attempt to comprehensively describe all aspects of the City's SWMP, fully document all lines of questioning conducted during personnel interviews, or document all in-field verification activities conducted during site visits.

ADEQ staff presented their credentials at the opening meeting held at the Public Works building. A sign in sheet from the meeting is presented in Appendix B, Exhibit 1. The primary representatives involved in the audit were the following:

City of Apache Junction MS4 Audit: July 9-10, 2013	
City of Apache Junction	Emile Schmid, Senior Project Engineer
	Sam Jarjice, Development Services Engineer
	Joshua Warren, Engineering Inspector
Arizona Department of Environmental Quality	Greg Wise, Environmental Program Specialist, Stormwater & General Permits
	Eileen Dunn, Hydrologist, Stormwater & General Permits

2.0 Program Evaluation Results

This audit report identifies potential permit violations, program deficiencies, and positive attributes and is not a formal finding of violations. Program deficiencies are areas of concern for successful program implementation. Positive attributes indicate a permittee's overall progress in implementing the SWMP. The Audit Team documented only positive attributes that were innovative (beyond minimum requirements). Some areas were found to be simply adequate; that is, neither particularly deficient nor innovative.

During the audit, ADEQ staff obtained information and supporting documentation regarding compliance with the Permit and associated SWMP. The SWMP contains citations to the Permit, BMP requirements, objectives, an implementation timetable, and measurable goals. Referenced documentation used as supporting evidence is provided in Appendix B, and photo documentation is provided in Appendix C.

2.1 Stormwater Program Management

Part V, *Storm Water Management Program (SWMP)*, of the Permit requires the City to develop, implement, and enforce a SWMP. Specific requirements and components related to the City's program are outlined in Part V, Sections B – G of the Permit. Descriptions and details regarding the audit observations, as well as, supporting documentation regarding the program are provided in this section.

Deficiencies Noted:

2.1.1 The City's Storm Water Management Program (SWMP) does not accurately reflect current program components. Part V, Section E.1 of the Permit states "The permittee shall annually review the SWMP in conjunction with preparation of the annual report required under Part V, Section G." City staff confirmed that the City's SWMP was last revised on May 15, 2006. In addition, City staff indicated to the Audit Team that the SWMP was not reflective of current City MS4 program components.

Upon review, the Audit Team found multiple instances of conflicting information between the SWMP and the City's 2012 Annual Report. Two examples are provided.

Example 1: The City's SWMP (page 15) states that an ordinance regarding illicit discharges to the Apache Junction storm sewer system was adopted in March of 2007. However, the 2012 Annual Report (page 5 of 11) states that an ordinance that prohibits illicit discharges to the Apache Junction's storm sewer system was adopted in September of 2006. During the audit, Apache Junction staff members were unaware of the existence of an illegal discharge ordinance.

Example 2: The 2012 Annual Report (page 5 of 11) indicates that the City has completed the development and implementation of an outfall inspection program, and that, "All outfalls were inspected in the winter of 2004-2005 with discharges and illegal dumping identified. Plans to inspect and implement on a yearly basis, on-going." However, the City's SWMP (page 16), indicates that outfall inspection procedures would be implemented between June and December of 2006, and that 50% of the jurisdictional boundary for storm water outfalls would be inspected between January and June of 2007, with the remaining 50% to be inspected between July and December of 2007. The connection between these two statements was unclear to the Audit Team. During the audit Emile Schmid stated that no outfalls have been identified or mapped.

As required by the Permit, the City must review the SWMP annually. Additionally, the Audit Team recommends the City commit to making this update an iterative process and an opportunity for program evolution. The SWMP updates should include language to meet permit requirements and help guide actions required of the program.

2.2 Illicit Discharge Detection and Elimination

Pursuant to 40 CFR 122.34(b)(3) and Permit Part V, Section B.3.a, *Illicit Discharge Detection and Elimination*, of the Permit requires the City to develop, implement, and enforce an illicit discharge detection and elimination (hereinafter, IDDE) program. Specific requirements and components related to the City's IDDE program are outlined in Part V, Section B.3 (b) – (g) of the Permit. Descriptions and details regarding the audit observations, as well as supporting documentation, regarding this MCM are provided in this section.

The city has a stormwater code (chapter §5-2) in the land development code (Volume II). The stormwater code specifies prohibitions of illicit discharges and prohibited non-stormwater discharges.

The city's stormwater code also includes provisions for violations, enforcement, civil and criminal penalties, and fines (§5-2-12).

Potential Permit Violations:

2.2.1 The City has not developed written procedures for identifying, locating, or eliminating illicit discharges. As stated in Part V, Section B.3.d of the Permit the City is required to “develop and implement a plan to detect, identify the source of, and address non-storm water discharges, including illegal dumping, to the system.” City staff members interviewed during the audit appeared motivated to prohibit, remove, and respond to illicit connections and discharges in the City; however, according to City staff, written standard operating procedures (SOPs) for detecting and eliminating of illicit discharges have not been developed.

The Audit Team submitted a Records Request via email to Apache Junction on June 24, 2013, which formally outlined items related to the City's IDDE program that should be made available at the audit. The Records Request included items such as a map of the MS4 denoting outfalls, a schedule, map, or description of the outfall inspection program, an inventory of businesses, entities, or areas inspected, visited, or observed as part of the illicit discharge program, a system used to record illicit discharge incident information, and any high priority areas. The City was unable to provide the requested documentation and demonstrate implementation of the requested items (see Appendix B, Exhibit 2, Items No. 5-8)

The lack of written SOPs to detect, identify the source of, address, and document non-storm water discharges hinders the ability of City staff to carry out the IDDE program. The City should develop written SOPs for identifying, locating, and eliminating illicit discharges, as well as develop written enforcement procedures or an Enforcement Response Plan (ERP) for escalation of enforcement. The Department also recommends the City address and clearly define the roles and responsibilities of City staff members when illicit discharges occur.

2.2.2 The City's IDDE program has not identified the location of all outfalls from the storm sewer system. Part V, Section B.3.b of the Permit states that the City shall “develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls.”

The Audit Team submitted a Records Request, via email, to Apache Junction on June 24, 2013, and solicited the Permittee to provide “Storm drain system map and onsite demonstration of any associated mapping tools. Emphasize layers/mapping that informs the MS4 program activities (e.g., storm drain system, structural controls, outfalls, receiving waters, etc.),” see Appendix B, Exhibit 2, Item No. 5. During the audit, this request was repeated by the Audit Team. The City was unable to provide the Audit Team with a map that showed the locations of all outfalls and waterways. During the audit, city staff explained that no outfalls have been identified or mapped. City staff members were unaware of the Permit requirements regarding outfalls, and were unclear about the general definition of an outfall. According to Mr. Schmid, the City's storm sewer system is being mapped by a city employee using a handheld GPS unit, but that this did not include identifying outfalls locations.

Per requirements in the Permit and the SWMP, the City should develop a storm sewer system map, including the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls.

2.2.3 The City has not implemented an outfall inspection program. Part V, Section B.3.f of the Permit states that the City shall “Conduct dry weather field screening for non-storm water flows.” The City's SWMP (page 16) specifies a measurable goal to conduct “Dry weather inspections of all known storm water system outfalls at least once, by December 2007, and initiate investigation of illicit discharges of illegal dumping activities within 15 working days of discovery.” According to City staff, an inspection program to perform dry weather outfall inspections has not been instituted by the City.

As required by the Permit, the City must perform and document annual dry weather screening of all identified outfalls based on a comprehensive outfall survey consistent with the Permit and in accordance with the future SWMP updates. Additionally, the City should modify the SWMP to reflect the most current outfall inventory and screening practices.

2.2.4 The City does not have a system in place to record illicit discharge incident information. The Audit Team formally requested an “Onsite demonstration of the database or system used to record illicit discharge incident information. As part of this effort, 2-3 hardcopy examples of a completed illicit discharge incident that includes identification, response, and remedy. At least one of the examples should include an example/case file of an incident where enforcement was used (ideally full extent of enforcement authority).” (see Appendix B, Exhibit 2, Item No. 8). According to the City, a database called iWorQ is used by the City of Apache Junction to track illicit discharge incidents and complaints; however, the City was unable to provide a demonstration of the database to show how incidents are tracked and resolved, and only one staff member was knowledgeable enough of the database to attempt a query of past illicit discharges.

Additionally, while City representatives could remember one instance of a reported illicit discharge incident, an oil spill into a storm drain at Robert's Complete Automotive, they were unable to provide documentation or records to show how the incident was identified, responded to, and resolved. After subsequent request by ADEQ for supporting documentation of historic illicit discharge incidents, the City produced paperwork for one illicit discharge complaint

regarding concrete being dumped in a wash near Mountain View Mobile Home Park; however, it was unclear how the case was resolved and there was no mention in the entry that a follow-up inspection was conducted.

The Audit Team recommends the City develop a system to record illicit discharge incidents and that City staff members are trained on how to use and access the system.

2.3 Construction Site Storm Water Runoff Control

Pursuant to 40 CFR 122.34(b)(4) and Permit Part V, Section B.4.a, *Construction Site Storm Water Runoff Control*, Apache Junction must develop administrative controls to ensure both private and Capital Improvement Project (CIP) construction activities that disturb one or more acres (or less than one acre, but is part of a larger common plan of development) obtain coverage under Arizona's CGP before construction activities are initiated. This process should include procedures for construction site plan review to ensure proposed control measures are adequate. The Construction Site Storm Water Runoff Control program must also include, at a minimum, the specific requirements listed in Part V, Sections B.4. (b) through (e) of the Permit.

The city has a stormwater code (chapter §5-2) in the land development code (Volume II). The stormwater code specifies requirements for construction site stormwater management, to have an approved stormwater pollution prevention plan, to install and maintain erosion and sediment controls, to control construction and sanitary waste, and right of entry (inspections).

Potential Permit Violations:

2.3.1. The City has not developed policies and procedures to review site plans for construction activities. As stated in Part V, Section B.4.c of the Permit, the City is required to “review all site plans for those sites described in Part V, Section B.4.a of the Permit for potential water quality impacts, including erosion and sediment control, control of other wastes, and any other impacts that must be examined according to the requirements of the law or ordinance of Part V, Section B.4.b.”

According to the City's SWMP (page 20), the City's Public Works Department and the Development Services Department are responsible for Construction Site Runoff Controls. The SWMP (page 22) further indicates that by December of 2006, the City would develop policies and procedures for plan review regarding storm water runoff controls and integrate them into the City's existing review process, and would train staff starting in January of 2007. In the June 24, 2013, Records Request, the Audit Team formally requested an erosion and sediment control plan/Storm Water Pollution Prevention Plan (SWPPP) review checklist and construction site plan review procedures (see Appendix B, Exhibit 2, Items No. 11-12). City representatives were unable to provide documentation or written procedures for the plan review process to ensure that erosion and sediment control BMPs are reviewed before groundbreaking activities occur at construction sites. City staff also explained that the City does not currently utilize a SWPPP review checklist and that the City's existing building permit review process does not include guidance or preferred BMPs for the development community.

2.3.2. The City has not adequately developed and implemented procedures for site inspections and enforcement of BMP control measures at construction sites. Part V, Section B.4.d of the Permit requires the City to “develop and implement procedures for site inspection and enforcement of control measures for those sites described in Part V, Section B.4.a.” The City's SWMP (page 24) indicates that written policies and procedures for inspecting construction

sites and enforcing stormwater runoff controls were developed in 2006 and implemented in 2007. In the June 24, 2013, Records Request, the Audit Team formally requested the Permittee provide construction inspection and enforcement procedures, a construction inspection field checklist, construction inspection records (most recent reporting year), inventory/map of current active construction sites within location, example/case file of a construction site issue where enforcement of local ordinance was used (ideally full extent of enforcement authority), and records of follow up actions to citizen/employee complaints regarding construction site issues (most recent reporting year) (see Appendix B, Exhibit 2, Items No. 14-19). The City was unable to provide the Audit Team with an inventory of current construction sites or written procedures for site inspections and enforcement of control measures, as specified in the SWMP, and was not able to demonstrate the implementation of any procedures at construction sites. The City also failed to provide any construction inspection records at the time of the audit.

On July 10, 2013, the Audit Team, accompanied by several City staff members, conducted site visits at four private construction sites, which were identified by utilizing ADEQ's Notice of Intent (NOI) database for coverage under the Construction General Permit (CGP). The first site visit took place at Powerline FRS Dam Safety Measure, a 150-acre project located on the corner of Baseline Road and Ironwood Drive in Apache Junction. The second site visit was at a road improvement project named 16th Avenue Road Improvements, and the remaining two site visits were conducted at the Villagio Subdivision and the Apache Junction Townhomes, both residential construction projects. The purpose of the site visits was to assess the City's oversight activities for stormwater compliance at construction sites. Summary observations are presented below.

The Powerline FRS Dam Safety Measure project was active with construction on the day of the visit. City staff indicated the project's SWPPP or site map that included erosion and sediment control BMPs had not been reviewed prior to groundbreaking. Additionally, the City was unable to provide records or documentation to show that the site had been inspected to ensure effective stormwater BMPs had been installed. During the site visit, the Audit Team observed two large above-ground fuel tanks, located near the site's construction trailers, with improperly installed liner underneath the tanks serving as secondary containment. The Audit Team observed spilled diesel fuel from the tanks accumulating on the liner and several instances of fuel leaking into the soil. Also, the project lacked sufficient good housekeeping BMPs – several containers of unknown chemicals without secondary containment were observed adjacent to storage shed (see Appendix C, Photographs 1-4). The Audit Team observed evidence of spilled chemicals in the soil next to the containers. The authorization number was not posted near the entrance of the site.

The second site visit occurred at the 16th Avenue Improvements site, a linear project located on 16th Avenue between Meridian Road and Delaware Drive. Approximately four acres were disturbed on the day of the visit. The audit team did not observe any erosion or sediment control BMPs in place to prevent the discharge of pollutants, including sediment, from the site. The audit team did observe concrete waste material and an overall lack of good housekeeping BMPs (see Appendix C, Photographs 5-7) at the site. City representatives were unable to verify if the construction activity was a private project or a CIP. As with the other construction sites visited during the audit, city personnel were unable to provide records or documentation to show the project had been inspected.

The Villagio Subdivision site, located on 16th Avenue, west of Delaware, and next to the 16th Avenue Improvements site, also lacked erosion and sediment control BMPs. The subdivision was partially surrounded by a block wall and consisted of curbs, paved streets, and numerous denuded, lots that lacked temporary or final stabilization. A retention basin was located towards

the back of the project area, but it was unclear if stormwater runoff from the entire project is directed to the basin. According to City staff, vertical construction was scheduled to begin in some of the denuded lots within several weeks, but no BMPs were installed to prevent erosion or sediment discharge from the lots. The audit team observed several areas at the construction site where sediment and other pollutants were discharged to the paved streets. These same streets serve as a component of the storm sewer system. The audit team also observed stockpiles throughout the construction site that were not being managed with erosion and sediment controls. The site lacked good housekeeping BMPs and did not utilize a designated concrete washout station, and instances of spilled concrete waste was prevalent throughout the site. The CGP authorization number was not posted at the site and there was no SWPPP available at the site for review (see Appendix C, Photographs 8-15).

The last construction project visited was Apache Junction Townhomes, located at 1170 North Idaho Road. The 15-acre subdivision was nearly surrounded by block wall and consisted of completed homes, curbs, paved streets, and retention basins stabilized with rock. The Audit Team observed one unstabilized lot within the subdivision in the initial stages of vertical construction. There was no erosion or sediment control BMPs implemented at this location.

Sediment from track-out and inadequate housekeeping practices was observed accumulating in the street adjacent to the unfinished lot. Track-out was also observed throughout several streets at the construction site. There was no record the operator of this site obtained coverage under Arizona's CGP and was no SWPPP available for review (see Appendix C, Photographs 16-18).

According to Apache Junction personnel, the City does not have dedicated erosion and sediment control inspectors to conduct routine construction site stormwater inspections. Instead, according to information provided to the Audit Team, one City staff member is responsible for conducting public right-of-way inspections at both private construction sites and CIPs, and that little or no emphasis is placed on erosion and sediment control BMPs.

2.4 Pollution Prevention/Good Housekeeping for Municipal Operations

Pursuant to 40 CFR 122.34(b)(6) and Permit Part V, Section B.6.a, *Pollution Prevention/Good Housekeeping for Municipal Operations*, the City must “develop and implement an operation and maintenance program that includes a training component with the goal of preventing or reducing pollutant runoff from municipal operations due to activities, including but not limited to park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance.” Provisions in Part V, Sections B.6.a. (i) – (iii) establish specific requirements to be addressed as part of the operations and maintenance program.

Potential Permit Violations:

2.4.1. Improper pollution prevention practices were noted during site visits at municipal facilities. Part V, Section B.6.a.ii of the Permit specifies that the operation and maintenance program shall include controls to reduce or eliminate the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas, and salt and sand storage locations and snow disposal areas.” The Audit Team conducted a site visit at the Public Works Yard, located next to the Public Works Building at 575 East Baseline Road. The Public Works Yard is used as a central parking area for City vehicles, work trucks, street sweepers, and various other types of equipment. The Public Works Yard is also used for chemical storage. The Audit Team observed

instances of oil stains in the soil where equipment and vehicles were parked, as well as millings in the soil underneath an asphalt spreader (see Appendix C, Photographs 19-28).

The Audit Team also observed large stockpiles of dirt and asphalt millings in an open storage area located south of the Public Works building and north of Weekes Wash. Old equipment and miscellaneous waste materials were also stored in this area. Evidence of erosion (i.e., rills, gullies) was observed along the north bank of Weekes Wash, and no barrier was in place to prevent storm water run-off from the storage area to enter Weekes Wash (see Appendix C, Photographs 29-32).

2.4.2. The City has not conducted pollution prevention/good housekeeping training for municipal employees. The Records Request emailed to the City on June 24, 2013, included a request for municipal employee training records and syllabus (i.e., training content) on pollution prevention and IDDE (see Appendix B, Exhibit 2, Item No. 23). City representatives were unable to provide training content or documentation to show that municipal employees are trained on pollution prevention, good housekeeping, and illicit discharges. One employee stated that he had not received training on the MS4 Permit or components of pollution prevention and good housekeeping. City staff stated that municipal employees attend monthly training sessions, but that these sessions focus on safety issues such as the importance of drinking water and sun prevention, with some spill prevention. Attendance sheets for these monthly training sessions were provided, but documentation detailing training content was not made available to the Audit Team.

As required by the Permit, the must City develop and implement a training program that reaches all municipal employees whose job responsibilities may have the potential to impact storm water. Additionally, the City should update its SWMP to include a description of the training program once it is implemented and should identify the person(s) responsible for training. The Audit Team recommends the City maintain records of both training attendance and types of training conducted.

3.0 Conclusion and Recommendations

As a result of the audit of Apache Junction's stormwater program and permitting compliance, ADEQ found several positive attributes along with areas of potential permit non-compliance, as specified in this report.

In addition to the positive attributes and areas of potential permit non-compliance, ADEQ identified areas of additional opportunities the city should consider developing and implementing in an effort to solidify and promote its stormwater program, including the following:

- The City should consider the benefit of City-wide knowledge of the Permit and the stormwater program to facilitate understanding and a collective effort towards compliance and improved water quality.
- The City has developed and finalized ordinances to prohibit illicit discharges and require construction site control measures; however, during the audit, it was determined by the Audit Team that City staff members were unaware of these ordinances. Knowledge of these ordinances would help to improve the effectiveness of the City's MS4 program.
- The City should consider publicizing the definition of "illicit discharge" to City employees and the public to aid in the recognition and response to pollution entering the storm drain system and receiving waters.
- As an overachieving programmatic recommendation, the City should implement a recordkeeping process for each MCM to comply with the SWMP and allow for tracking of various activities.
- As a recommendation for improving the public education and outreach program, the City should enhance efforts to measure the effectiveness of the existing public education and outreach program within the community. The efforts could be tailored to measure awareness and behavioral changes based on current program management. Additionally, the City should develop a branding message for the storm water program to communicate to City management and the citizen base conveying awareness and the overall objective of the program.
- The City should consider developing a program for stenciling catch basins to inform the public that the structure is part of the City's MS4 and ultimately discharges to a receiving water body without any treatment to remove pollutants.
- The City is encouraged to include measureable goals for municipal maintenance in the SWMP including: repairs, street sweeping, and catch basin maintenance.
- An inventory of municipal facilities and practices should be as a way to perform facility inspections and periodically evaluate facilities that do not necessarily need Multi-Sector General Permit (MSGP) coverage.
- Observations by the Audit Team Lead the team to recommend that a greater emphasis be placed on sediment control throughout the City. This might take the form of further training for inspection staff on current sediment control BMPs, educational materials/training for the local private development community, or increased emphasis on sediment control during pre-construction meetings and site inspections.

**ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM
AUTHORIZATION TO DISCHARGE STORMWATER
FROM A MUNICIPAL SEPARATE STORM SEWER SYSTEM TO
WATERS OF THE UNITED STATES**

This permit provides authorization to discharge under the Arizona Pollutant Discharge Elimination System (AZPDES) program, in compliance with the provisions of Arizona Revised Statutes (A.R.S.) Title 49, Chapter 2, Article 3.1; Arizona Administrative Code (A.A.C.), Title 18, Chapter 9, Article 9, and amendments thereto; and the Clean Water Act as amended (33 U.S.C. 1251 et seq.). The permittee, the

City of Tempe
Public Works Department
P. O. Box 5002
31 E. 5th Street, Garden Level
Tempe, AZ 85280


is authorized to discharge stormwater from the municipal separate storm sewer system (MS4) operated by the city of Tempe to waters of the United States in accordance with the terms and conditions set forth in this permit.

This permit becomes effective on: January 3, 2011.

The permit modifications become effective on: June 3, 2011

This permit and the authorization to discharge expires at midnight: January 2, 2016.

Permit modifications signed this 3rd day of June, 2011



Michael A. Fulton, Director
Water Quality Division
Arizona Department of Environmental Quality

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- Appendix A – Stormwater Management Program (SWMP) Measurable Goals
- Appendix B – Annual Report Form (ARF)
- Appendix C – Stormwater Management Program (SWMP) Requirements

1.0 AUTHORIZATION

1.1 Applicability

In accordance with 40 CFR 122.26(a)(3), incorporated by reference in A.A.C. R18-9-A905, this permit authorizes the discharge of stormwater from the municipal separate storm sewer system (MS4) owned and operated by the city of Tempe (hereafter, Tempe or the city), a medium MS4, to waters of the United States (waters of the U.S.) and includes the incorporated area(s) of Tempe.

1.2 Authorized Discharges

Subject to the terms and conditions of this permit, Tempe is authorized to discharge stormwater from all outfalls of the MS4 owned or operated by Tempe to waters of the U.S.

2.0 LEGAL AUTHORITY

The city shall continue to maintain and enforce legal authority to control the discharge of pollutants to the MS4 through ordinance, statute, permit, contract or similar means. This legal authority must, at a minimum, authorize Tempe to:

- 2.1** Control the contribution of pollutants to the MS4 by stormwater discharges associated with industrial activity (as defined by 40 CFR 122.26(b)(14)) and the quality of stormwater discharged from sites of industrial activity;
- 2.2** Control the contribution of pollutants to the MS4 by stormwater discharges associated with construction activity and the quality of stormwater discharged from construction sites;
- 2.3** Prohibit illicit connections and discharges to the MS4;
- 2.4** Control discharges to the MS4 of spills, dumping, or disposal of materials other than stormwater;
- 2.5** Require compliance with conditions in ordinances, permits, contracts or orders;
- 2.6** Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition of illicit discharges to the MS4; and
- 2.7** Establish requirements for post-construction stormwater controls.

3.0 LIMITATIONS OF COVERAGE

The city shall obtain separate authorization under another AZPDES permit for discharges related to its industrial and construction stormwater discharges, or discharges of non-stormwaters. This permit does not authorize the following discharges:

- 3.1 Stormwater Associated with Industrial Activity**
Stormwater associated with industrial activity as defined in 40 CFR 122.26(b)(14)(i)-(ix) and (xi).
- 3.2 Stormwater Associated with Construction Activity**
Stormwater associated with construction activity as defined in 40 CFR 122.26(b)(14)(x) or 40 CFR 122.26(b) (15).
- 3.3 Non-Stormwater**
Non-stormwater, including De Minimis discharges as defined in Section 10 (Definitions) of this permit.
- 3.4 Stormwater Mixed with Non-stormwater**
Stormwater mixed with sources of non-storm water (except those non-stormwater discharges and flows listed in 40 CFR 122.26(d)(2)(iv)(B)(1), and determined not to be a source of pollutants).
- 3.5 Impaired Waters**
Stormwater to waters listed as impaired on Arizona's 303(d) and other impaired water list(s), except as specified in Section 6.0 (Special Conditions) of this permit.
- 3.6 Outstanding Arizona Waters**
Stormwater to waters identified as outstanding Arizona (OAW) waters in A.A.C. R18-11-112, except as specified in Section 6.0 (Special Conditions) of this permit.

4.0 SURFACE WATER QUALITY STANDARDS

4.1 Tempe shall protect water quality by reducing, to the maximum extent practicable (MEP), discharges that cause or contribute to an exceedance of any applicable surface water quality standard (SWQS) of the State of Arizona (Arizona Administrative Code, Title 18, Chapter 11, Article 1), including the narrative limitations applicable to waters of the U.S. receiving discharges from the MS4. To do so, Tempe shall fully implement the Stormwater Management Program (SWMP), referenced in Section 5.0, any subsequent revisions, and all requirements of this permit, including appendices.

4.2 The city shall compare stormwater quality monitoring data, as measured from the monitoring locations specified in Section 7.0, Table 1 of this permit, to the SWQSs applicable to the waters of the U.S. receiving the discharge from the MS4.¹ A pollutant concentration that is greater than the applicable surface water quality standard is not considered a violation of this permit when Tempe is implementing control measures designed to reduce the discharge of pollutants to the MEP in the drainage area(s) where such exceedances have occurred. In the event that a pollutant concentration greater than the applicable SWQS is detected, Tempe shall continue to perform monitoring of stormwater discharges as required by Section 7.3.

If monitoring data collected under this permit show a recurring (more than once) exceedance at a monitoring location, the city shall investigate and make all reasonable efforts to identify potential source(s) of the pollutant(s).² Were feasible, city shall evaluate the effectiveness of existing control measures on the pollutant(s) of concern and modify existing control measures or implement additional control measures, as necessary, to reduce the discharge of pollutants to the MEP.

4.3 If despite full implementation of the SWMP and other requirements of this permit, the city finds that a discharge contains pollutants above a surface water quality standard, Tempe shall report this information in the annual report. This report shall include, at a minimum, the information specified in Section 8.3 of this permit. For recurring discharges containing pollutants above a SWQS, actions taken to investigate and identify sources and any recommended control measures for reducing the discharge of pollutants shall be included in the annual report.

4.4 If a recurring exceedance of a SWQS exists at a monitoring location and it is determined pursuant to Subsection 4.2 that additional control measures or actions within the control of Tempe may reduce a recurring discharge of pollutant(s) above the SWQS, the city shall immediately begin to implement those control measures, or alternatively propose to the department an action plan including a schedule for implementation.² In the event the city elects to propose an action plan, the plan (including the schedule for implementation) must be submitted to the department within 30 days of identifying the recurring exceedance (in accordance with Subsection 4.2). If discharge containing pollutants above an applicable surface water quality standard persists and the city has not modified existing control

¹ When data is analyzed consistent with Section 7.0 of this permit, and results are below the Limit of Quantitation (LOQ), the permittee is to report flagged data. However, in this event, such data is not considered to be an 'exceedance' or to definitively 'contain pollutants above a SWQS' for the purposes of Section 4.0.

² *E. coli* values above the SWQS are prevalent in Arizona in high flow precipitation events. For this pollutant, unless the permittee is discharging into an outstanding Arizona water or a waterbody impaired for *E. Coli*, extensive investigation is not required. However, the permittee shall review available information for obvious or high contributing sources, and human sources that can be readily managed or eliminated.

measures or implemented additional control measures to reduce the discharge of pollutants to the MEP, this permit may be reopened and modified.

5.0 STORMWATER MANAGEMENT PROGRAM (SWMP)

5.1 Program Implementation

The city shall continue to implement and maintain a Stormwater Management Program (SWMP) designed to reduce, to the MEP, pollutant discharges to and from the MS4 that is owned or operated by Tempe. The SWMP shall comply with the requirements specified in 40 CFR 122.26(d) (2) (iv), incorporated by reference in A.A.C. R18-9-A905. The SWMP shall also incorporate provisions related to the requirements specified in the permit appendices, and generally describe how the data required to be reported will be collected and maintained.

5.2 Measurable Goals

At a minimum, Tempe shall implement and maintain control measures and associated frequencies, amounts, timeframes, and other measurable goals specified in Appendix A of this permit. Upon the effective date of this permit, the city shall begin updating the SWMP as necessary to comply with the provisions of this permit, including Appendix A. In addition to these requirements, the city shall implement additional stormwater and non-stormwater control measures or actions as necessary to reduce the discharge of pollutants to and from the MS4 to the MEP.

5.3 Program Updates

Tempe shall submit two (2) copies of the updated SWMP (plan) and associated attachments to ADEQ within one (1) year of the issuance date of this permit. The written plan shall include all of the information specified in Appendix C and shall be organized in a similar manner. The SWMP shall be submitted to the ADEQ Stormwater and General Permits Unit Manager at the address specified in Section 8.6 (Reporting Locations) of this permit.

5.4 Annual Program Review

The city shall conduct an annual review of the SWMP in conjunction with the preparation of the annual report required under Section 8.1 to evaluate the effectiveness of the program in reducing the discharge of pollutants, to the MEP, to and from the MS4 and to assess improvements in stormwater quality.

5.5 Revisions to the SWMP

The city shall update the SWMP during the permit term as necessary to improve the effectiveness of the program in reducing the discharge of pollutants to and from the MS4 to the maximum extent practicable. Changes to the SWMP made in accordance with the following do not require formal modification of this permit:

1. Addition of New Control Measures: The city may add control measures to the SWMP at any time during the life of the permit. A description of these modification(s) shall be included in the subsequent annual report as required by Section 8.1 of this permit.
2. Addition of Temporary or Experimental Control Measures: In addition to control measures described in the SWMP, the city may implement temporary (i.e., event driven) practices, experimental controls at any time during the life of the permit. Such control measures may also be removed at the discretion of the city. The initiation and cessation of such control measures and an assessment of the effectiveness of the temporary or experimental control measures shall be described in the subsequent annual report.

3. Increase of Existing Control Measures: Tempe may increase the amount or frequency of an existing control measure in the SWMP at any time during the life of the permit. A description of these modification(s) shall be included in the subsequent annual report.
4. Replacement of Existing Control Measures: Tempe may replace an ineffective control measure with an alternate control measure during the life of the permit with prior approval by ADEQ. Tempe shall demonstrate that the change will continue to achieve an equivalent or increased reduction in pollutants and shall provide the following information:
 - a. A description of the control measure to be replaced;
 - b. An explanation of why the existing control measure is ineffective;
 - c. An analysis of how the replacement control measure is expected to achieve the goals of the control measure which is to be replaced; and
 - d. An explanation of how the SWMP will continue to reduce the discharge of pollutants, to the maximum extent practicable, with the replacement of the original control measure.

[Note: Changing control measures from year to year are allowed by certain Appendix A provisions in I.A, I.B, and II.A. These changes do not require prior approvals or modifications of the permit.]

5.6 SWMP Revisions Requiring a Permit Modification

The city shall not discontinue or decrease an existing control measure (including an amount, frequency, timeframe, or any other measurable goal specified in Appendix A) without prior modification of this permit. Such modifications shall be proposed by the city in writing as a request for permit modification and shall describe how the proposed change will continue to achieve an equivalent reduction in pollutants and will not cause or contribute to a violation of any applicable surface water quality standard. In addition, a request for permit modification shall include the following information:

1. A description of the control measure to be eliminated or reduced;
2. An explanation of why the control measure should be eliminated or reduced;
3. An analysis of how the goals of the existing control measure is expected to be achieved once the control measure is eliminated or reduced; and
4. An explanation of how the SWMP will continue to reduce discharges of pollutants, to the MEP, with the elimination or reduction of the control measure.

5.7 Program Modification Required by ADEQ

ADEQ may require changes to the SWMP as needed to:

1. Address impacts on water quality caused, or contributed to, by discharges from the MS4;
2. Include more stringent requirements necessary to comply with new state or federal statutory or regulatory requirements; or
3. Include such other conditions deemed necessary by the director to comply with the goals and requirements of the Clean Water Act.

Changes required by ADEQ shall be made in writing, shall set forth the time schedule for Tempe to develop the changes, and shall offer the city the opportunity to propose alternative program changes to meet the objective of the modification. All changes required by ADEQ shall be made in accordance with the provisions in R18-9-B906 and 40 CFR 122.62.

6.0 SPECIAL CONDITIONS

6.1 Discharges from the MS4 to Impaired Waters

This permit is intended to improve and protect the impaired waters within the State of Arizona as specified in Arizona's 303(d) and other impaired water list(s). At the time of permit issuance, no water of the U.S. receiving discharges from the MS4 has been classified as an impaired water. The city shall develop and implement control measures to minimize the discharge of any 303(d) listed parameters from the MS4 to an impaired water. These control measures shall be clearly identified in the city's SWMP.

Tempe shall also include any listed pollutant(s) in the stormwater monitoring performed at any outfall(s) discharging to an impaired water, as required by Section 7.3.3 of this permit. Monitoring for listed pollutants shall be performed throughout the permit term at the outfall(s) discharging to the impaired water (*this provision does not require fish tissue monitoring.*)

6.2 Total Maximum Daily Load (TMDL) Allocations

At the time of permit issuance, no Total Maximum Daily Loads (TMDLs) have been established for any water of the U.S. that receives discharges from Tempe's MS4. However, if a TMDL is established during the permit term, this permit may be reopened and modified to include the requirements of the TMDL and associated implementation plan in accordance with reopening and modification provisions in R18-9-B906 and 40 CFR 122.62.

6.3 Discharge from the MS4 to Outstanding Arizona Waters

This permit is intended to preserve and protect outstanding Arizona waters within the State of Arizona. At the time of permit issuance, no water of the U.S. receiving discharges from the MS4 has been classified as an OAW. However, if a water of the U.S. that has the potential to be impacted by the MS4 discharge is classified as a OAW during the permit term, this permit may be reopened and modified, in accordance with R18-9-B906 and 40 CFR 122.62, to include additional conditions to ensure that the OAW is adequately protected.

7.0 MONITORING REQUIREMENTS

7.1 Monitoring Objectives

The city shall conduct stormwater monitoring as required by this permit. Stormwater sampling data shall be used, at a minimum, for the following purposes:

- A. To characterize stormwater quality and identify stormwater pollutants;
- B. To detect and eliminate illicit discharges;
- C. To evaluate the general effectiveness of specific control measures and the SWMP as a whole in reducing the discharge of pollutants; and
- D. To estimate pollutant loads to waters of the U.S.

7.2 Dry Weather Screening

The city shall continue to implement an ongoing program to monitor major outfalls and field screening points for illicit discharges. The program shall implement the practices and measurable goals specified in Appendix A. The city shall perform outfall inspections in accordance with field screening procedures set forth at 40 CFR 122.26(d)(1)(iv)(D), and other applicable monitoring procedures.

7.3 Wet Weather Monitoring

7.3.1 Measurable Storm Events

Tempe shall conduct wet weather monitoring for storm events of 0.1 inches (or greater) that result in an actual discharge from the locations identified in Table 1. Discrete sampling events for each location shall not be less than 72 hours since the last storm event discharge.

7.3.2 Storm Event Records

Each season Tempe shall record measurable storm events occurring at each sampling station specified in Table 1 of this permit until all samples required to be collected during the season are obtained from the outfall. The permittee shall report this storm event data in the annual report and include, at a minimum, the following information:

1. Date of each storm event;
2. Amount of rainfall (in inches) in the drainage area for each stormwater monitoring location; and
3. For those storm events producing 0.10 inches of rainfall or greater, indication of whether or not a stormwater sample was collected, and if not, a brief explanation on the conditions that prevented or did not require sampling.

7.3.3 Seasonal Stormwater Sampling

The city shall sample stormwater discharging from the MS4 at the locations specified in Table 1 throughout the permit term. The city shall implement the stormwater sampling program as follows: no later than June 1, 2011, the city shall have a minimum of two sample locations listed in Table 1 operational and sample the first measurable storm event following the operational date of each monitoring location; and no later than November 1, 2011, the city shall have all remaining sample locations identified in Table 1 operational and begin sampling activities with the first measurable storm event following the operational date of each monitoring location. Subject to the operational schedule described above and the make-up sampling described below, stormwater sampling shall be conducted each wet season as necessary to collect at least one (1) stormwater sample from a measurable storm event from each monitoring location specified in Table 1. The city shall implement measures to best ensure that wet weather samples are representative of stormwater discharges and do not contain quantities and concentrations of pollutants resulting from dry weather flow that would significantly alter stormwater samples.

Wet seasons, for the purposes of monitoring, shall be defined as follows:

Summer wet season: June 1 – October 31
Winter wet season: November 1 – May 31

For those monitoring locations to be operational by June 1, 2011, the city shall conduct stormwater sampling at those locations to make up for stormwater sampling that could have occurred during winter wet season 2010-11. The make-up sampling shall occur during a subsequent winter wet season during the term of this permit, if two measurable storm events occur during that season.

For those monitoring locations to be operational by November 1, 2011, the city shall conduct stormwater sampling at those locations to make up for stormwater sampling that could have occurred during winter wet season 2010-11 and summer wet season 2011. The make-up sampling shall occur during a subsequent winter wet season and a subsequent summer wet season, respectively, during the term of this permit, if two measurable storm events occur during those seasons.

The make-up storm water sampling for all monitoring locations shall include sampling for Volatile Organic Compounds (VOCs), Semi-VOCs, and Pesticides that are to be conducted every other year during the term of this permit.

If any of the monitoring locations are operational prior to the dates specified and a measurable storm event occurs, the city shall conduct stormwater sampling at the operational locations and the corresponding make-up sampling shall not be required.

Except as otherwise described above, stormwater samples shall be collected at the frequencies specified in Table 2 (once each wet season; either every year or every other year of the permit, see Table 2). Sampling shall be conducted over the first three (3) hours of the discharge, or for the entire discharge period if the discharge lasts less than three (3) hours. The city shall design stormwater sampling procedures to include the "first flush" (first 30 minutes of storm water discharge) of a representative storm event whenever possible to do so.

Table 1 Monitoring Locations					
Sampler Name	Sampler Location	Outfall Location	Outfall Name	Surface Water	Location Description
Dorsey Drain	33° 25' 18.7" 111° 55' 03.2"	33° 25' 57.7" 111° 54' 53.1"	SR08	Salt River	City of Mesa NW WRF outfall at 33°26'45"/111°56'35" to Tempe Town Lake at 33°26'01"/111°54'55"
Ash Avenue	33° 25' 45.5" 111° 56' 33.1"	33° 25' 57.2" 111° 56' 56.9"	SR05	Salt River	Below Tempe Town Lake to I-10 Bridge
TD03	33° 25' 00.6" 111° 58' 39.6"	33° 25' 07.1" 112° 01' 00.3"	TD03	Salt River	Below Tempe Town Lake to I-10 Bridge
TD-01	33° 25' 00.0" 111° 58' 40.4"	33° 25' 07.1" 112° 01' 00.3"	TD-01	Salt River	Below Tempe Town Lake to I-10 Bridge
KP01	33° 22' 28.5" 111° 56' 18.1"	33° 22' 27.8" 111° 56' 19.1"	KP01	Kiwanis Park Lake	Urban Lake; 6000 South Mill Avenue, Tempe at 33°22'27"/111°56'21"

TABLE 2 Stormwater Monitoring		
Parameter ¹	Sampling Frequency ⁴	Sample Type ⁶
Conventional Parameters		
Average flow rate for the sampling period ³	Each time an outfall is sampled	_____
pH	At least once each wet season for each year in the permit term beginning June 1, 2011 ⁴	Discrete (field analysis)
Temperature	“ “	Discrete (field analysis)
Hardness	“ “	Flow-proportional composite
Total Dissolved Solids (TDS) (mg/L) ²	“ “	“ “
Total Suspended Solids (TSS) (mg/L) ²	“ “	“ “
Biochemical Oxygen Demand (BOD) (mg/L) ²	“ “	“ “
Chemical Oxygen Demand (COD) (mg/L) ²	“ “	“ “
Microbiological		
<i>Escherichia coli</i> (<i>E. coli</i>) (CFU/100 ml or MPN) ²	“ “	Discrete
Inorganics		
Cyanide, total (ug/L) ²	“ “	Discrete
Metals (ug/L) ^{2, 5}		
Antimony	“ “	Flow-proportional composite
Arsenic	“ “	“ “
Barium	“ “	“ “
Beryllium	“ “	“ “
Cadmium	“ “	“ “
Chromium	“ “	“ “
Copper	“ “	“ “
Lead	“ “	“ “
Mercury	“ “	“ “
Nickel	“ “	“ “
Selenium	“ “	“ “
Silver	“ “	“ “
Thallium	“ “	“ “
Zinc	“ “	“ “

Nutrients (mg/L) ²		
Nitrate plus Nitrite as N	“ “	Flow-proportional composite
Ammonia as N	“ “	“ “
Total Kjeldahl Nitrogen (TKN) as N	“ “	“ “
Total Phosphorus	“ “	“ “
Orthophosphate (Total)	“ “	“ “
Organic Toxic Pollutants		
Total Petroleum Hydrocarbons (TPH) (mg/L)	“ “	Discrete
Total Oil and Grease (mg/L) ²	“ “	Discrete
Volatile Organic Compounds (VOCs), Semi-VOCs, and Pesticides (ug/L) ²		
Parameter ¹	Sampling Frequency ⁴	Sample Type ⁶
Volatile Organics (ug/L) ^{2, 7}		
Acrolein	At least once each wet season every other year of this permit beginning June 1, 2011 ⁴	Discrete
Acrylonitrile	“ “	“ “
Benzene	“ “	“ “
Bromoform	“ “	“ “
Carbon tetrachloride	“ “	“ “
Chlorobenzene	“ “	“ “
Chlorodibromomethane	“ “	“ “
Chloroethane	“ “	“ “
2-chloroethylvinyl ether	“ “	“ “
Chloroform	“ “	“ “
Dichlorobromomethane	“ “	“ “
1,2-dichlorobenzene	“ “	“ “
1,3-dichlorobenzene	“ “	“ “
1,4-dichlorobenzene	“ “	“ “
1,1-dichloroethane	“ “	“ “
1,2-dichloroethane	“ “	“ “
1,1-dichloroethylene	“ “	“ “
1,2-dichloropropane	“ “	“ “
1,3-dichloropropylene	“ “	“ “
Ethylbenzene	“ “	“ “
Methyl bromide	“ “	“ “
Methyl chloride	“ “	“ “
Methylene chloride	“ “	“ “
1,1,2,2-tetrachloroethane	“ “	“ “
Tetrachloroethylene	“ “	“ “

Toluene	ug	ug	ug	ug
1,2-trans-dichloroethylene	ug	ug	ug	ug
1,1,1-trichloroethane	ug	ug	ug	ug
1,1,2-trichloroethane	ug	ug	ug	ug
Trichloroethylene	ug	ug	ug	ug
Trimethylbenzene	ug	ug	ug	ug
Vinyl chloride	ug	ug	ug	ug
Xylene	ug	ug	ug	ug
SVOCs - Acid Extractables (ug/L) ^{2, 7}				
2-chlorophenol	ug	ug	Flow-proportional composite	
2,4-dichlorophenol	ug	ug	ug	ug
2,4-dimethylphenol	ug	ug	ug	ug
4,6-dinitro-o-cresol	ug	ug	ug	ug
2,4-dinitrophenol	ug	ug	ug	ug
2-nitrophenol	ug	ug	ug	ug
4-nitrophenol	ug	ug	ug	ug
p-chloro-m-cresol	ug	ug	ug	ug
Pentachlorophenol	ug	ug	ug	ug
Phenol	ug	ug	ug	ug
2,4,6-trichlorophenol	ug	ug	ug	ug
SVOCs - Bases/Neutrals (ug/L) ^{2, 7}				
Acenaphthene	ug	ug	Flow-proportional composite	
Acenaphthylene	ug	ug	ug	ug
Anthracene	ug	ug	ug	ug
Benz(a)anthracene	ug	ug	ug	ug
Benzo(a)pyrene	ug	ug	ug	ug
Benzo(b)fluoranthene	ug	ug	ug	ug
Benzo(g,h,i)perylene	ug	ug	ug	ug
Benzo(k)fluoranthene	ug	ug	ug	ug
Chrysene	ug	ug	ug	ug
Dibenzo(a,h)anthracene	ug	ug	ug	ug
3,3'-dichlorobenzidine	ug	ug	ug	ug
Diethyl phthalate	ug	ug	ug	ug
Dimethyl phthalate	ug	ug	ug	ug
Di-n-butyl phthalate	ug	ug	ug	ug
2,4-dinitrotoluene	ug	ug	ug	ug
2,6-dinitrotoluene	ug	ug	ug	ug
Di-n-octyl phthalate	ug	ug	ug	ug
1,2-diphenylhydrazine (as azobenzene)	ug	ug	ug	ug
Fluoranthene	ug	ug	ug	ug
Fluorene	ug	ug	ug	ug

Hexachlorobenzene	ug	ug	ug	ug
Hexachlorobutadiene	ug	ug	ug	ug
Hexachlorocyclopentadiene	ug	ug	ug	ug
Hexachloroethane	ug	ug	ug	ug
Indeno(1,2,3-cd)pyrene	ug	ug	ug	ug
Isophorone	ug	ug	ug	ug
Naphthalene	ug	ug	ug	ug
Nitrobenzene	ug	ug	ug	ug
N-nitrosodimethylamine	ug	ug	ug	ug
N-nitrosodi-n-propylamine	ug	ug	ug	ug
N-nitrosodiphenylamine	ug	ug	ug	ug
Phenanthrene	ug	ug	ug	ug
Pyrene	ug	ug	ug	ug
1,2,4-trichlorobenzene	ug	ug	ug	ug
PCB / Pesticides (ug/L) ^{2, 7}				
Aldrin	ug	ug	Flow-proportional composite	
Alpha-BHC	ug	ug	ug	ug
Beta-BHC	ug	ug	ug	ug
Gamma-BHC	ug	ug	ug	ug
Delta-BHC	ug	ug	ug	ug
Chlordane	ug	ug	ug	ug
4,4'-DDT	ug	ug	ug	ug
4,4'-DDE	ug	ug	ug	ug
4,4'-DDD	ug	ug	ug	ug
Dieldrin	ug	ug	ug	ug
Alpha-endosulfan	ug	ug	ug	ug
Beta-endosulfan	ug	ug	ug	ug
Endosulfan sulfate	ug	ug	ug	ug
Endrin	ug	ug	ug	ug
Endrin aldehyde	ug	ug	ug	ug
Heptachlor	ug	ug	ug	ug
Heptachlor epoxide	ug	ug	ug	ug
PCB-1242	ug	ug	ug	ug
PCB-1254	ug	ug	ug	ug
PCB-1221	ug	ug	ug	ug
PCB-1232	ug	ug	ug	ug
PCB-1248	ug	ug	ug	ug
PCB-1260	ug	ug	ug	ug
PCB-1016	ug	ug	ug	ug
Toxaphene	ug	ug	ug	ug

Footnotes to Table 2- continued on next page

- 1 The city shall include any additional parameters in seasonal stormwater sampling as required by Section 6.0 of this permit (Special Conditions).
 - 2 Analytical results shall be reported in the units specified for each category or parameter.
 - 3 Determine the average flow rate for the sampling period (no more than three (3) hours). In addition to average flow rate, the city shall also record the duration of the sampling period, the volume of flow over the sampling period, and all other monitoring information as specified in Section 7.6 of this permit (Monitoring Records).
 - 4 Sampling Frequency: The sampling frequency for conventional parameters, cyanide, nutrients, *Escherichia coli* (*E. coli*), TPH, oil and grease, and metals is once each season for each year in the permit term at each monitoring location (outfall) in accordance with the operational schedule and make-up sampling described in Section 7.3.3. The sampling frequency for VOCs, semi-VOCs, and pesticides is once each season for every other year of the permit beginning in June 2011 in accordance with the operational schedule and make-up sampling described in Section 7.3.3.
 - 5 If analyzing for total metals, the city shall assume a 1:1 total to dissolved ratio for purposes of reporting and comparison with surface water quality standards (SWQS) unless a site specific translator study is performed. Alternatively, the city may test for dissolved metals, if appropriate field filtering is completed. Hardness data must also be collected and used to calculate the corresponding SWQS for certain metals as indicated by the Surface Water Quality Standards rules.
 - 6 Sample Type: Discrete samples shall be collected manually for pH, temperature, cyanide, oil and grease, TPH, *E. coli*, and VOCs. Flow-proportional composite samples shall be collected for all other parameters specified in Table 2. A flow-proportional composite sample may be collected with a continuous sampler or as a combination of multiple discrete samples (aliquots). Only one (1) analysis of the composite of aliquots is required. Regardless of the sample type, the city shall attempt to include the "first flush" (first 30 minutes of stormwater discharge) of a representative storm event whenever possible to do so.
 - 7 Methods: These parameters may be run using the following methods: VOCs, 624 or 8260; SVOCs 625, or 8270; and PCB / Pesticides, 608/625 or 8081/8082 if the laboratory can pass quality assurance (QA) with the method. In this case, the data should be marked with a T2 flag.
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7.4 Assessment of Pollutant Loadings

Beginning with the annual report for reporting year 2011-12, Tempe shall estimate the pollutant loadings each year from all identified municipal outfalls to waters of the U.S. for BOD, COD, TSS, total dissolved solids, total nitrogen, total ammonia plus total organic nitrogen (TKN), total phosphorous, and metals. An event mean concentration of each pollutant shall be estimated using representative storm event data for each year. The city shall estimate the annual (total) pollutant loadings from the MS4 to waters of the U.S. each year. Pollutant loadings and event mean concentrations may be estimated from sampling data collected at the representative monitoring locations and shall take into consideration land uses and drainage areas for the outfall. The pollutant loadings estimated each year shall be compared to previous estimates of pollutant loadings throughout this permit term. Estimates of pollutant loadings and event mean concentrations shall be included in the annual report and shall be accompanied by a description of the procedures for estimating pollutant loads and concentrations, including any modeling, data analysis, and calculation methods.

7.5 Sample Collection and Analysis

- 7.5.1** The city is responsible for the quality and accuracy of all data required under this permit.

7.5.2 Quality Assurance (QA) Manual

The city shall keep a QA manual that describes the sample collection and analyses processes. If the city collects samples or conducts sample analyses in-house, the city shall develop a QA manual that addresses these activities. If a third party collects and/or analyzes samples on behalf of Tempe, the city shall obtain a copy of the applicable QA procedures. The QA manual shall be available for review by ADEQ/ADHS upon request. The QA manual shall be updated as necessary and shall describe the following:

1. Project management including roles and responsibilities of the participants; qualifications of persons collecting samples; purpose of sample collection; matrix to be sampled; the analytes or compounds being measured; and applicable permit-specific limits, assessment levels or thresholds;
2. Sample collection procedures; equipment used; the type and number of samples to be collected including QA/QC (quality assurance/quality control) samples (i.e., background samples, duplicates, and equipment or field blanks); preservatives and holding times for the samples (see methods under 40 CFR 136 or Title 9, Chapter 14, Article 6 or any condition within this permit that specifies a particular test method);
3. Approved analytical method(s) to be used; Limits of Detection (LODs) and Limits of Quantitation (LOQs); required QC results to be reported (e.g., matrix spike recoveries, duplicate relative percent differences, blank contamination, laboratory control sample recoveries, surrogate spike recoveries, etc.) and acceptance criteria; and corrective actions to be taken by the city or the laboratory as a result of problems identified during QC checks; and
4. How the city will perform data review; report results to ADEQ; resolve data quality issues; and identify limitations on the use of the data.

7.5.3 Sample Collection

Sample collection, preservation and handling shall be performed as described in 40 CFR 136 including the referenced edition(s) of *Standard Methods for the Examination of Water and Wastewater*, or by procedures referenced in A.R.S Title 9, Chapter 14 of the ADHS laboratory licensure rules. Samples taken for this permit must conform to procedures required and documented in Section 7.5.2.2 whether collection and handling is performed directly by the city or contracted to another party.

7.5.4 Analyses Requirements

1. The city must use a laboratory that is licensed by the ADHS Office of Laboratory Licensure and Certification. Sample analyses conducted in the field at the time of collection (e.g., temperature, pH, etc.) may be performed by the city (including contractors retained by Tempe) utilizing instruments appropriate for the analyses or measurement. Field instruments must be calibrated and maintained according to the manufacturer's specifications. Where such a procedure exists, field analyses shall be conducted in accordance with procedures established in 40 CFR 136. To ensure consistency, the city shall prepare Standard Operating Procedures (SOPs) for

all analyses conducted in the field, whether or not a procedure is established in 40 CFR 136. Copies of the SOPs shall be included in the first annual report submitted to ADEQ and retained in the QA manual.

2. The city must use analytical methods specified in this permit. If no test procedure is specified, the city shall analyze the pollutant using:
 - a. A test procedure listed in 40 CFR 136;
 - b. An alternative test procedure approved by the EPA as provided in 40 CFR 136;
 - c. A test procedure listed in 40 CFR 136, with modifications allowed by EPA and approved as a method alteration by ADHS under A.A.C. R9-14-610(C); or
 - d. If no test procedure for a pollutant is available under (2)(a) through (c) above, any method in A.A.C. R9-14-612 or approved under A.A.C. R9-14-610(C) for wastewater may be used. If there is no approved wastewater method for a parameter, any other method identified in 9 A.A.C. 14, Article 6 that will achieve appropriate detection and reporting limits may be used for analyses.
3. For results to be considered valid, all analytical work shall meet quality control standards specified in the approved methods.
4. The city shall use an analytical method with a Limit of Quantitation (LOQ) that is lower than the water quality criteria applicable to the waters of the U.S. which receive stormwater discharges. If all methods have LOQs higher than applicable water quality criteria, the city shall use the approved analytical method with the lowest LOQ.
5. The city shall use a standard calibration where the lowest standard point is equal to or less than the LOQ³.

7.6 Monitoring Records

The city shall retain records of monitoring activities, including the following information applicable to the sampling event and equipment type:

1. Date and time of sampling or measurements performed;
2. Monitoring location (outfall identification);
3. Individual(s) who performed the sampling or measurements;
4. Duration of the sampling period;
5. Volume of flow during the sampling period;
6. Volume of each discrete and flow-weighted composite sample;
7. Volume of each aliquot in the flow-weighted composite sample;
8. Flow rate at the time of collection of each aliquot;
9. Number of aliquots in the flow-weighted composite sample;
10. Time interval between collection of each aliquot (or time of collection of each aliquot);
11. Sample preservatives used;
12. Date(s) the analyses were performed;
13. Laboratory and individual(s) who performed the analyses;
14. Analytical techniques or methods used;
15. Published Method Detection Limit (MDL) of each method used, as applicable;

³ In those cases where methods utilize a single point calibration, such as 200.7 for metals, the permittee should request the laboratory to provide the lowest concentration for each analyte over which the instrument response is linear. The linear dynamic range for the method should be established as part of the required QA/QC procedures.

16. Limits of Detection (LODs) of each method used;
17. Results of such analyses;
18. Completed chain of custody forms;
19. Any comments, case narrative or summary of results produced by the laboratory required to be supplied to the city by the laboratory under ADHS licensure rules; and
20. Summary of data interpretation and any corrective action related to the data taken by Tempe.

7.7 Retention of Monitoring Records

The city shall retain records of all monitoring information including all calibration and maintenance records for field equipment or meters operated by the city, copies of all reports required by this permit, and records of all data use for a period of at least five (5) years from the date of the sample, measurement or report.

7.8 Sampling Waiver

Sampling of a representative event is not required during adverse climatic conditions. Adverse climatic conditions which prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, electrical storms, etc.). Information on the conditions that prevented sampling as required by Section 7.3. of this permit shall be reported to ADEQ in the annual report. The city shall continue to monitor subsequent storm events during the monitoring season and perform storm water sampling of a representative storm event if another occurs during the same wet season.

7.9 Changes to the Monitoring Program by the City

Tempe may increase the number of monitoring locations, sampling frequencies, or number of monitoring parameters specified in this permit at any time during the life of the permit without submitting a request for permit modification from ADEQ. The city may also cease any additional monitoring not specified in this permit at any time without submitting a request for permit modification from ADEQ. A description of these change(s) to the monitoring program, including corresponding analytical results, shall be included in the subsequent annual report required by Section 8.1 of this permit.

Tempe shall not decrease or replace a monitoring requirement specified in this permit including monitoring locations, sampling frequencies, or monitoring parameters, without modifying this permit. Changes to the monitoring requirements specified in this permit shall be proposed by the city in writing as a request for permit modification. A proposal for permit modification to change a monitoring requirement shall include the following information:

1. A description of the monitoring requirement to be reduced or replaced;
2. An explanation of why the monitoring requirement should be reduced or replaced;
3. A description of the proposed change to the monitoring requirement;
4. An explanation of how the proposed change will affect the monitoring program; and
5. An analysis of how the proposed change will continue to achieve the goals of the monitoring program with the reduction or replacement of the monitoring requirement.

7.10 Modification to Monitoring Program Required by ADEQ

ADEQ may require changes to the monitoring program to:

1. Assess impacts on water quality caused or contributed to by discharges from the MS4 to waters of the U.S.; or
2. Include more stringent requirements necessary to comply with new state or federal statutory or regulatory requirements.

Changes required by ADEQ shall be made in writing, shall set forth the time schedule for the city to develop the changes, and shall offer Tempe the opportunity to propose alternative changes to meet the objective of the modification. All changes required by ADEQ shall be made in accordance with R18-9-B906 and 40 CFR 122.62.

7.11 Compliance with Monitoring Requirements

Tempe shall implement and comply with all of the monitoring requirements specified in Section 7.0 of this permit. Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained in this permit is subject to the enforcement actions established under A.R.S. Title 49, Chapter 2, Article 4, which includes the possibility of fines and/or imprisonment.

8.0 REPORTING REQUIREMENTS

8.1 Annual Reporting

8.1.1 All Annual Reports

The city shall prepare an annual report summarizing the progress of the SWMP and the findings of monitoring activities for each year of the permit term. The annual report shall be submitted to the Stormwater and General Permits Unit, Surface Water Section each year as specified in Sections 8.5 and 8.6 which follow. The city shall complete the annual report form (ARF), as attached in Appendix B of this permit, consisting of the following information:

1. General Information, including:
Name of Permittee (legal entity); existing MS4 permit number; name, title, mailing address, telephone and fax number, and email address of the stormwater program contact person; and name, title, mailing address, telephone and fax number, and email address of the municipal or county official that is signing and certifying the renewal application;
2. Report Certification;
3. Summary of Stormwater Management Program Activities (narrative);
4. Summary of Stormwater Management Program Activities (numeric);
5. Evaluation of the Stormwater Management Program;
6. Stormwater Management Program Modifications;
7. Monitoring Locations;
8. Storm Event Records;
9. Summary of Monitoring Data;
10. Copies of Laboratory Analytical Reports;
11. Assessment of Monitoring Data (also see Section 8.3 of this permit - Discharge of Pollutants above a Surface Water Quality Standard) (beginning with the annual report for reporting year 2011-12);
12. Estimate of Pollutant Loadings (beginning with the annual report for reporting year 2011-12);
13. Annual Expenditures; and
14. Attachments.

When the city is unable to collect storm water samples, as required by Section 7.3 of this permit, due to adverse climatic conditions, the city shall submit in the annual report, in lieu of sampling data, a description of the conditions that prevented sampling, including documentation of the storm event.

The city may modify Part 9 of Appendix B as necessary to report the information according to the operational schedule and make-up sampling described in Section 7.3.3.

8.1.2 The 4th Year Annual Report.

In addition to the information in Section 8.1.1, the 4th year submittal shall be expanded to include the following provisions. This comprehensive document shall serve as the renewal application for the city.

1. Waters of the U.S. - Identification of waters of the U.S. (including Tempe area canals) that may receive discharges from the MS4. Include a brief description of the designated uses of each water of the U.S. and any known water quality impairments or total maximum daily loads (TMDLs) for those waters, or designation of any such water as an outstanding Arizona water resource.
2. Mapping - An up-to-date map or map(s) showing MS4 boundaries, locations where Tempe's storm sewer discharges to waters of the U.S., locations where Tempe's storm sewer system discharges to a storm sewer systems owned or operated by another party, and wet weather stormwater monitoring location(s) and the associated drainage basins.
3. Rain Gauges - Identification of the location of rain gauges in the vicinity of the wet weather monitoring locations with approximate longitude and latitude for each rain gauge.
4. Discharge Characterization Data - Summary of stormwater quality monitoring data based on all sampling results obtained during the permit term. Provide an evaluation of the quality of stormwater discharges from the MS4, including a discussion on the detection and non-detection of specific pollutants. Include an assessment of any trends, improvements, or degradation of stormwater quality discharges from the MS4.
5. Pollutant Loads - Summary of the annual (or seasonal) pollutant loadings for detected pollutants in stormwater discharges from the MS4.
6. Updated SWMP - A copy of the current updated SWMP and associated attachments in Section 5.3 and Appendix C of this permit.
7. Any proposed modifications to the monitoring program - If changes are proposed to the stormwater monitoring program (such as changes to monitoring locations, parameters, or frequency), identify those and include a brief discussion on the reason(s) for modification.
8. Modifications to the SWMP - Summary of changes made to the SWMP during the permit term, including any addition or replacement of control measures.
9. Proposed Modifications to the SWMP - If changes to the SWMP are proposed for the next permit term, identify those and include a brief discussion on the reasons for modification.
10. Fiscal Analysis - Brief description of the funding sources used to support MS4 SWMP expenditures.
11. Sustainable Stormwater Management - Summary of evaluation conducted on the implementation of sustainable stormwater management. This research will evaluate existing planning, construction, and redevelopment practices and identify potential mechanisms to promote and encourage stormwater management designed to reduce

pollutant loading and where possible enhance stormwater reuse consistent with water conservation and efficiency goals.

8.2 Non-filer Notifications

Tempe shall notify the department of any construction or industrial activities that are known to be occurring without AZPDES authorization to discharge stormwater associated with those activities (i.e., non-filers). Information shall be reported to the Unit Manager, Field Services Unit, Water Quality Compliance Section periodically, but at least semi-annually.

1. For construction activities that are known by the city to be occurring without ADEQ's Notice of Intent (NOI) authorization, for permit coverage under the AZPDES Construction General Permit, provide the project name and address, and operator name and contact information, if known. Non-filers do not include operators that have received written acknowledgment of a permit waiver certification form from ADEQ.
2. For industrial activities that are known by the city to be occurring without ADEQ's required NOI authorization for permit coverage under the Multi-Sector General Permit (MSGP), or other general or individual NPDES permit for stormwater discharges associated with industrial activity, provide the facility name and address, SIC (Standard Industrial) code, business owner or operator, and contact information, if known. Non-filers do not include operators that have received written acknowledgment of a No Exposure Certification form from ADEQ.

Notification of non-filers shall be in writing and may be submitted by mail, hand delivery, electronic submittal, e-mail or facsimile. This requirement is not considered subject to the signatory and certification requirements of Sections 9.2 and 9.12.

8.3 Discharge of a Pollutant Above a Surface Water Quality Standard

If Tempe detects a discharge that contains a concentration of a pollutant above an applicable surface water quality standard on a recurring basis, the city shall report this information in the annual report as required by Section 4.3 of this permit. The report shall include, at a minimum:

1. Sampling dates;
2. Monitoring location (outfall identification number);
3. Waters of the U.S. that received the discharge and surface water quality standard (SWQS) which was exceeded;
4. Monitoring results (laboratory reports);
5. A description of the efforts to investigate and identify the sources of the pollutant(s), and circumstances that may have caused or contributed to high pollutant levels;
6. Proposed further actions, which may include revisions to the SWMP consisting of additional and/or revised control measures to reduce or eliminate the pollutant(s) or source(s) to the maximum extent practicable; and
7. If applicable, a schedule for implementing the proposed stormwater or non-stormwater control measures.

8.4 Additional Reporting Requirements

Tempe shall comply with all additional reporting requirements specified in Section 9.0 (Standard Conditions) of this permit, including the following conditions:

Planned Changes	9.13 (1)
Anticipated Noncompliance	9.13 (1)
Transfers	9.13 (2)
Monitoring Reports	9.13 (3)
Compliance Schedules	9.13 (4)
24-Hour Reporting	9.13 (5)
Other Noncompliance	9.13 (6)
Other Information	9.13 (7)
Availability of Reports	9.18

8.5 Reporting Deadline

Annual reports are due on September 30th of each year.

8.6 Reporting Locations

24-hour reporting requirements specified in Section 9.13 of this permit shall be made to:

ADEQ's 24-Hour Hotline (602) 771-2330

ADEQ Water Quality Compliance Manager (602) 771-2209

All documents (annual reports, SWMPs, renewal application) required by this permit to be submitted to ADEQ Surface Water Section shall be directed to:

ADEQ - Surface Water Section
Storm Water and General Permits Unit
Mail Code: 5415A-1
1110 West Washington Street
Phoenix, AZ 85007
Phone (602) 771-4508

All documents (AZPDES Non-filer reports) required by this permit to be submitted to ADEQ Water Quality Compliance Section shall be directed to:

ADEQ - Water Quality Compliance Section
Field Services Unit Manager
Mail Code: 5415B-1
1110 West Washington Street
Phoenix, AZ 85007
Phone (602) 771-4612

8.7 Signatory and Certification Requirements

All applications, reports or information submitted to ADEQ shall be signed and certified in accordance with Sections 9.12 (Signatory Requirements) of this permit, except as specifically provided in Section 8.2.

9.0 STANDARD CONDITIONS

9.1 Duty to Reapply

[A.A.C. R18-9-B904(B)] The city shall submit the information required for renewal at least 180 days before this permit expires.

9.2 Signatories to Applications or Reports

[A.A.C. R18-9-A905 (A) (1) (c) incorporates by reference 40 CFR 122.22]

1. All permit applications for a municipality, state, federal, or other public agency shall be signed by either a principal executive officer or ranking elected official.
2. Reports and Other Information
All reports required by this permit and other information requested by ADEQ shall be signed by a person described in Subsection 9.2.1 of this Section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - (a) The authorization is made in writing by a person described in 9.2.1;
 - (b) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. A duly authorized representative may thus be either a named individual or any individual occupying a named position; and
 - (c) The written authorization is submitted to ADEQ.
3. Changes to Authorization
If an authorization under subsection 9.2.2. of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of 9.2.2. of this section must be submitted to ADEQ prior to or together with any reports, information, or applications to be signed by an authorized representative.
4. Certification
Any person signing a document under Subsection 9.2.1 or 9.2.2 of this section shall make the following certification:

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

9.3 Duty to Comply

[A.A.C. R18-9-A905 (A)(3)(a) which incorporates 40 CFR 122.41(a)(1) and A.R.S. §§ 49-262, 263.01]

1. Tempe shall comply with all conditions of this permit and any standard and prohibition required under A.R.S. Title 49, Chapter 2, Article 3.1 and A.A.C. Title 18, Chapter 9, Article 9. Any permit noncompliance constitutes a violation of the Clean Water Act;

A.R.S. Title 49, Chapter 2, Article 3.1; and A.A.C. Title 18, Chapter 9, Articles 9 and 10, and is grounds for enforcement action, permit termination, revocation and reissuance, or modification, or denial of a permit renewal application.

2. The issuance of this permit does not waive any federal, state, county, or local regulations or permit requirements with which a person discharging under this permit is required to comply.
3. Tempe shall comply with the effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulation that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
4. **Civil Penalties:** A.R.S. § 49-262(C) provides that any person who violates any provision of A.R.S. Title 49, Chapter 2, Article 2, 3 or 3.1 or a rule, permit, discharge limitation or order issued or adopted under A.R.S. Title 49, Chapter 2, Article 4 is subject to a civil penalty not to exceed \$25,000 per day per violation.
5. **Criminal Penalties:** Any person who violates a condition of this permit, or violates a provision under A.R.S. Title 49, Chapter 2, Article 3.1, or A.A.C. Title 18, Chapter 9, Article 9 is subject to the enforcement actions established under A.R.S. Title 49, Chapter 2, Article 4, which may include the possibility of fines and/or imprisonment.

9.4 Need to Halt or Reduce Activity Not a Defense

[A.A.C. R18-9-A905(A)(3) (a) incorporates by reference 40 CFR 122.41(c)]

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

9.5 Duty to Mitigate

[A.A.C. R18-9-A905(A)(3)(a) incorporates by reference 40 CFR 122.41(d)]

Tempe shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

9.6 Proper Operation and Maintenance

[A.A.C. R18-9-A905(A)(3)(a) incorporates by reference 40 CFR 122.41(e)]

Tempe shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the city to achieve compliance with the conditions of this permit and the city's SWMP. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a city only when the operation is necessary to achieve compliance with the conditions of the permit.

9.7 Permit Actions

[A.A.C. R18-9-A905(A)(3)(a) incorporates by reference 40 CFR 122.41(f)]

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

9.8 Property Rights

[A.A.C. R18-9-A905(A)(3)(a) incorporates by reference 40 CFR 122.41(g)]

This permit does not convey any property rights of any sort, or any exclusive privilege nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, Indian tribe, or local laws or regulations.

9.9 Duty to Provide Information

[A.A.C. R18-9-A905(A)(3)(a) incorporates by reference 40 CFR 122.41(h)]

Tempe shall furnish to ADEQ, within a reasonable time, any information which ADEQ may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The city shall also furnish to ADEQ upon request, copies of records required to be kept by this permit.

9.10 Inspection and Entry

[A.R.S. §41-1009; A.A.C. R18-9-A905(A)(3)(a) incorporates by reference 40 CFR 122.41(i)]

Tempe shall allow ADEQ, or an authorized representative, upon the presentation of credentials and such other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the terms of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring or control equipment), practices or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, A.R.S. Title 49, Chapter 2, Article 3.1, and A.A.C. Title 18, Chapter 9, Article 9, any substances or parameters at any location.

9.11 Monitoring and Records

[A.A.C. R18-9-A905(A)(3)(a) incorporates by reference 40 CFR 122.41(j)]

Refer to Section 7.0 of this permit for monitoring requirements.

9.12 Signatory Requirement

[A.A.C. R18-9-A905(A)(3)(a) incorporates by reference 40 CFR 122.41(k)]

1. All applications, reports or information submitted to ADEQ shall be signed and certified. (See 40 CFR 122.22 incorporated by reference at R18-9-A905[A][1][c])
2. The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two (2) years per violation, or by both for a first conviction. For a second conviction, such a person is subject to a fine of not more than \$20,000 per day of violation, or imprisonment of not more than four (4) years, or both. [Updated pursuant to the Water Quality Act of 1987]

9.13 Reporting Requirements

[A.A.C. R18-9-A905 (A)(3)(a) which incorporates 40 CFR 122.41(l)]

1. Anticipated Noncompliance

Tempe shall give advance notice to ADEQ of any planned changes in the permitted facility of activity which may result in noncompliance with the permit requirements.

2. Transfers (A.A.C. R18-9-B905)

This permit is not transferable to any person except after notice to ADEQ. ADEQ may require modification or revocation and reissuance of the permit to change the name of the city and incorporate such other requirements as may be necessary under Arizona Revised Statutes and the Clean Water Act.

3. Monitoring Reports

Refer to Section 8.0 of this permit for reporting requirements.

4. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

5. Twenty-Four Hour Reporting

Tempe shall orally report any noncompliance with this permit which may endanger the environment or human health within 24 hours from the time the city becomes aware of the event to ADEQ's 24-Hour Hotline at (602) 771-2330. The city shall also notify the appropriate regional Water Quality Compliance Manager by phone call or voice mail by 9 a.m. on the first business day following the noncompliance. (Refer to Section 8.6 for ADEQ contact information)

Tempe shall also notify ADEQ Water Quality Compliance Section in writing within five (5) days of the noncompliance event. The city shall include in the written notification a description of the noncompliance and its cause; the period of noncompliance, including dates and times, and, if the noncompliance has not been corrected, the time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. Written reports shall be submitted to ADEQ Water Quality Compliance Section as specified in Section 8.6 of this permit.

6. Other Noncompliance

Tempe shall report all instances of noncompliance not otherwise required to be reported under this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph five (5) of this subsection.

7. Other Information

Where the city becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to ADEQ, the city shall promptly submit such facts or information to ADEQ.

9.14 Bypass

[A.A.C. R18-9-A905 (A)(3)(a) incorporates by reference 40 CFR 122.41(m)]

1. Definitions

- a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

- b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
- 2. Bypass not Exceeding Limitations
Tempe may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs three (3) and four (4) of this subsection.
- 3. Notice
 - a. Anticipated Bypass
If the city knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten (10) days before the date of the bypass.
 - b. Unanticipated Bypass
The city shall submit notice of an unanticipated bypass as required in paragraph five (5) of Subsection 9.13 (24-Hour Reporting).
- 4. Prohibition of Bypass
 - a. Bypass is prohibited, and ADEQ may take enforcement action against a permittee for a bypass, unless:
 - (i) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - (iii) The city submitted notices as required under paragraph three (3) of this subsection.
 - b. ADEQ may approve an anticipated bypass, after considering its adverse effects, if ADEQ determines it will meet the three (3) conditions listed above in paragraph 4.a.

9.15 Upset

[A.R.S. §§ 49-255(8) and 255.01(E), A.A.C. R18-9-A905 (A)(3)(a) incorporates by reference 40 CFR 122.41(n)]

- 1. Definition
"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit discharge limitations because of factors beyond the reasonable control of the city. Upset does not include noncompliance to the extent that it is caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.
- 2. Effect of an Upset
An upset constitutes an affirmative defense to any administrative, civil or criminal enforcement action brought for noncompliance with such technology-based discharge

limitations if all requirements of paragraph three (3) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

3. Conditions Necessary for a Demonstration of Upset

A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

- a. An upset occurred and that the city can identify the specific cause of the upset;
- b. The permitted facility was being properly operated at the time of the upset;
- c. The city submitted notice of the upset as required in paragraph 5, Subsection 9.13 (24-Hour Reporting);
- d. The city complied with any remedial measures required under 40 CFR 122.41(d); and
- e. The city has taken appropriate measure including all reasonable steps to minimize or prevent any discharge or sewage sludge use or disposal that is in violation of the permit and that has a reasonable likelihood of adversely affecting human health or the environment per A.R.S. § 49-255.01(E)(1)(d).

4. Burden of Proof

In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

9.16 Reopener Clause

[A.A.C. R18-9-B906, and R18-9-A905 incorporates by reference 40 CFR 122]

The permit may be reopened in accordance with the reopening and modification provisions in R18-9-B906 and 40 CFR 122.62 based on newly available information; to address statutory or regulatory changes that occur during the permit term; to include conditions or limits for toxic constituents determined to be present in the discharge; to address provisions of an applicable TMDL; or to implement any EPA-approved new Arizona surface water quality standard. Per 40 CFR 122.62, when a permit is modified, only the conditions subject to modification are reopened

9.17 Termination of Permits

[A.A.C. R18-9-B906(c) and 40 CFR 122.64]

The following are causes for terminating a permit during its term, or for denying a permit renewal application:

1. Noncompliance by the city with any condition of the permit;
2. Tempe's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the city's misrepresentation of any relevant facts at any time;
3. A determination by ADEQ that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or
4. A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge controlled by the permit.

9.18 Availability of Reports

[Pursuant to A.R.S § 49-205 and Clean Water Act Section 308]

Except for data determined to be confidential under A.R.S. § 49-205(A), all records, reports or information prepared in accordance with the terms of this permit shall be made available to the public. In accordance with A.R.S. § 49-205(B) and (C), permit applications, permits, and effluent data shall be available to the public.

9.19 Removed Substances

[Pursuant to Clean Water Act Section 301]

Solids, sludges, filter backwash, or other pollutants removed in the course of maintenance of the MS4 shall be disposed of in a manner that prevents any pollutant from such materials from entering waters of the U.S. This provision is not intended to prevent the legitimate reuse or recycling of such materials in an environmentally responsible manner and as described in Tempe's SWMP.

9.20 Severability

[Pursuant to A.R.S. § 49-324(E) and Clean Water Act Section 512]

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and remainder of the permit, shall not be affected thereby.

9.21 Civil and Criminal Liability

[Pursuant to A.R.S. §§ 49-262, 263.01, and 263.02 and Clean Water Act Section 309]

Except as provided in permit conditions on "Bypass" (Section 9.14) and "Upset" (Section 9.15), nothing in this permit shall be construed to relieve the city from civil or criminal penalties for noncompliance.

9.22 Oil and Hazardous Substance Liability

[Pursuant to Clean Water Act Section 311]

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the city from any responsibilities, liabilities, or penalties to which the city is or may be subject under Section 311 of the Clean Water Act.

9.23 State or Tribal Law

[Pursuant to A.A.C. R18-9-A904(c) and Clean Water Act Section 510]

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the operator from any legal action or relieve the operator from any responsibilities, liabilities, or penalties established pursuant to any applicable state or tribal law or regulation under authority preserved by Section 510 of the Clean Water Act.

9.24 Other Environmental Laws

No condition of this permit releases the operator from any responsibility or requirements under other environmental statutes or regulations.

10.0 DEFINITIONS

Aliquot means a portion of a discrete sample used to produce a composite sample for analysis.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, structural and nonstructural controls, operational and maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the United States.

Composite Sample is a combined sample that is formed by combining a series of individual, discrete samples of specific volumes at specified intervals. Composite samples characterize the quality of a stormwater discharge over a longer period of time, such as the duration of a storm event. Although, these intervals can be time-weighted or flow-weighted, this permit requires the collection of flow-proportional composite samples. This means that samples are collected and combined using aliquots in proportion to flow rather than time. Also see Flow-Proportional Composite Sample and Flow-Weighted Composite Sample.

Construction Site means a location where construction activities (as defined in 40 CFR 122.26(b)(14)(x) and 40CFR 122.26(b)(15)) are ongoing and therefore the operator was required to obtain coverage under Arizona's Stormwater Construction General Permit.

Control Measure refers to any BMP, control technique and system, design and engineering method, and such other provisions to prevent or reduce the discharge of pollutants to waters of the United States to the maximum extent practicable.

CWA means the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972 (P.L. 92-500; 86 Stat.816; 33 United States Code sections 1251 through 1376), as amended. [A.R.S. § 49-201(6)]

De Minimis Discharge means a discharge that is a low flow and/or low frequency event of relatively pollutant free water which is discharged with appropriate control measures to reduce any pollutants to below the applicable surface water quality standards (18 A.A.C. 11, Article 1). De Minimis discharges to waters of the U.S. require permit coverage and shall not last for more than 30 days, unless approved in advance by the department.

Department means the Arizona Department of Environmental Quality.[A.R.S. § 49-201(9)]

Director means the director of the Arizona Department of Environmental Quality or the director's designee.

Discharge when used without qualification, means the "discharge of a pollutant."

Discharge of a Pollutant means any addition of any "pollutant" or combination of pollutants to "waters of the U.S." from any point source.

Discrete or Grab Sample means a discrete, individual sample collected from a single location within a short period of time (usually less than 15 minutes). Analysis of grab samples characterizes the quality of a discharge at a given time of the discharge.

Field Screening Point means a location other than an outfall, within a conveyance of a MS4 where either visual observation or sampling is performed.

Flow-Proportional Composite Sample is a sample that combines discrete samples collected over time, based on the flow of the discharge being sampled. There are two (2) methods used to collect

this type of sample. One collects a constant sample volume at time intervals that vary based on stream flow. The other collects discrete samples that are proportioned into aliquots of varying volumes based on stream flow, at constant time intervals (i.e., flow-weighted composite sample).

Flow-Weighted Composite Sample means a composite sample consisting of a mixture of aliquots from discrete samples collected at a constant time interval, where the volume of each aliquot is proportional to the flow rate of the discharge.

Illicit Connection means pipes, drains, open channels and other conveyances that have the potential to allow an illicit discharge to enter the storm sewer system, including connections made in the past, whether or not the connection was permissible at the time.

Illicit Discharge means any discharge to a MS4 that is not composed entirely of stormwater except discharges pursuant to a NPDES or AZPDES permit (other than the NPDES or AZPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities. [40 CFR 122.26(b) (2)]

Impaired Water means a water of the U.S. that has been assessed by ADEQ, under the CWA, Section 303(d), as not attaining a surface water quality standard (SWQS) for at least one (1) designated use, and is listed in Arizona's 303(d) and other impaired water list(s).

Large Municipal Separate Storm Sewer System (MS4) means a municipal separate storm sewer that is either:

1. Located in an incorporated area with a population of 250,000 or more as determined by the 1990 Decennial Census by the Bureau of Census; or
2. Located in a county with an unincorporated urbanized area with a population of 250,000 or more, according to the 1990 Decennial Census by the Bureau of Census, but not a municipal separate storm sewer that is located in an incorporated place, township, or town within the county; or
3. Owned or operated by a municipality other than those described in (1) and (2) above, and that are designated by the director under A.A.C. R18-9-A902(D)(2) as part of the large municipal separate storm sewer system. [A.A.C. R18-9-A901 (16)]

Limit of Detection or LOD means an analyte- and matrix-specific estimate of the minimum amount of a substance that an analytical process can reliably detect, which may be laboratory dependent and is developed according to Arizona Administrative Code R9-14-615(C)(7).

Limit of Quantitation or LOQ means the minimum levels, concentrations, or quantities of a target variable such as an analyte that can be reported with a specific degree of confidence.

Major Outfall means a municipal separate storm sewer outfall that discharges from a single pipe with an inside diameter of 36 inches or more or from its equivalent (discharge from a single conveyance other than circular pipe which is associated with a drainage area of more than 50 acres); or for municipal storm sewers that receive stormwater from lands zoned for industrial activity (based on comprehensive zoning plans or the equivalent), an outfall that discharges from a single pipe with an inside diameter of 12 inches or more or from its equivalent (discharge from other than a circular pipe associated with a drainage area of 2 acres or more). [40 CFR 122.26(b) (5)]

Measurable Goal means a quantitative measure of progress in implementing a component of a stormwater management program.

Measurable Storm Event means a storm event of 0.1 inches (or more) that results in an actual discharge that follows preceding measurable storm event by at least 72 hours. The 72-hour storm event does not apply if you are able to document that less than a 72-hour interval is representative for local storm events during the sampling period.

Medium Municipal Separate Storm Sewer System (MS4) means a municipal separate storm sewer that is either:

- a. Located in an incorporated area with a population of 100,000 or more but less than 250,000, as determined by the 1990 Decennial Census by the Bureau of the Census; or
- b. Located in a county with an unincorporated urbanized area with a population of 100,000 or more but less than 250,000 as determined by the 1990 Decennial Census by the Bureau of the Census; or
- c. Owned or operated by a municipality other than those described in subsections (a) and (b) and that are designated by the director under A.A.C. R18-9-A902(D)(2) as part of the medium municipal separate storm sewer system. [A.A.C. R18-9-A901 (20)]

MS4 means municipal separate storm sewer system (Also see definitions for large and medium municipal separate storm sewer systems).

Municipal Separate Storm Sewer means a conveyance, or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

1. Owned or operated by a state, city, town, county, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or a designated and approved management agency under Section 208 of the Clean Water Act (33 U.S.C. 1288) that discharges to waters of the United States;
2. Designed or used for collecting or conveying stormwater;
3. That is not a combined sewer; and
4. That is not part of a Publicly Owned Treatment Works (POTW) as defined at A.R.S. § 49-255.

Outfall means a point source (as defined by A.R.S. § 49-201) at the point where a municipal storm sewer discharges to waters of the United States, and does not include open conveyances connecting two (2) separate municipal storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

Outstanding Arizona Water means a water of the U.S. that has been designated by ADEQ as an outstanding state resource water by the director under A.A.C. R18-11-112.

Point Source means any discernible, confined and discrete conveyance, including but not limited to, any pipe, ditch, channel tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft from which pollutants are or may be discharged to waters of the U.S. Point source does not include return flows from irrigated agriculture or agricultural storm water runoff. [40 CFR 122.2 & A.R.S. § 49-201(28)]

Pollutant means fluids, contaminants, toxic wastes, toxic pollutants, dredged spoil, solid waste, substances and chemicals, pesticides, herbicides, fertilizers and other agricultural chemicals, incinerator residue, sewage, garbage, sewage sludge, munitions, petroleum products, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock,

sand, cellar dirt and mining, industrial, municipal and agricultural wastes or any other liquid, solid, gaseous or hazardous substances. [A.R.S. § 49-201(29)]

Stormwater means stormwater runoff, snow melt runoff, and surface runoff and drainage.
[A.A.C. R18-9-A901 (36)]

Stormwater Management Program (SWMP) means a comprehensive program to manage the quality of stormwater discharged from the municipal separate storm sewer system. Stormwater Management Program (or Stormwater Management Plan) is also used to refer to the written document that describes a stormwater management program.

Waters of the United States (U.S.) means those waters as defined in 40 CFR 122.2.

11.0 REFERENCES

1. *Municipal Separate Storm Sewer System, Annual Report Year Ending June 30, 2007, city of Tempe, Arizona, NPDES Permit No. AZS000005.*
2. *Municipal Separate Storm Sewer System, Annual Report Year Ending June 30, 2006, city of Tempe, Arizona, NPDES Permit No. AZS000005.*
3. *Municipal Separate Storm Sewer System, Annual Report Year Ending June 30, 2005, city of Tempe, Arizona, NPDES Permit No. AZS000005.*
4. *Municipal Separate Storm Sewer System, Annual Report Year Ending June 30, 2004, city of Tempe, Arizona, NPDES Permit No. AZS000005.*
5. *Municipal Separate Storm Sewer System, Annual Report Year Ending June 30, 2003, city of Tempe, Arizona, NPDES Permit No. AZS000005.*
6. *Municipal Separate Storm Sewer System, Annual Report Year Ending June 30, 2002, city of Tempe, Arizona, NPDES Permit No. AZS000005.*
7. *Municipal Separate Storm Sewer System, Annual Report Year Ending June 30, 2001, city of Tempe, Arizona, NPDES Permit No. AZS000005.*
8. *Municipal Separate Storm Sewer System, NPDES Permit No. AZS000005 Permit Application, dated May 16, 1992.*
9. *National Pollutant Discharge Elimination System (NPDES) Permit for the city of Tempe MS4, Permit No. AZS000005, dated February 14, 1997 (Effective March 19, 1997) and Permit Modification, dated April 15, 1998 (Effective May 23, 1998). Expired March 19, 2002.*
10. *City of Tempe Stormwater Management Program, dated October 28, 1996, and revised October, 2003.*
11. *Arizona Administrative Code (A.A.C.) Title 18, Chapter 11, Article 1, Water Quality Standards for Surface Waters, adopted January 31, 2009.*
12. *A.A.C. Title 18, Chapter 9, Article 9. Arizona Pollutant Discharge Elimination System rules.*
13. *Code of Federal Regulations (CFR) Title 40, Part 122, EPA administered permit programs: The National Pollutant Discharge Elimination System.*
14. *EPA's Municipal Separate Storm Sewer System Compliance Audit Report, dated October 24, 2008.*



City of Tempe, Arizona

STORMWATER MANAGEMENT PLAN

Prepared by the City of Tempe
Public Works Department, Water Utilities Division,
Environmental Services Section

As prescribed by
AZPDES Permit No. AZS000005-2010 Appendix C

January 2012

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ACRONYMS

AAC	Arizona Administrative Code
ADEQ	Arizona Department of Environmental Quality
ARCA	Alternative Retention Criteria Area
AZPDES	Arizona Pollutant Discharge Elimination System
BMP	Best Management Practice
CCTV	Closed Circuit Television
CFR	Code of Federal Regulations
CGP	Construction General Permit
CIP	Capital Improvement Project
CWA	Clean Water Act
EPA	Environmental Protection Agency
ERP	Enforcement Response Plan
FIFRA	Federal Insecticide, Fungicide and Rodenticide Act
HPCC	Household Products Collection Center
HWMP	Hazardous Waste Management Plan
IDDE	Illicit Discharge Detection and Elimination
IPM	Integrated Pest Management
KG	Kilogram
LID	Low Impact Development
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
MSDS	Material Safety Data Sheet
MSGP	Multi-Sector General Permit
NEC	No Exposure Certification
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
OAW	Outstanding Arizona Water
PPB	Parts per Billion
PPE	Personal Protective Equipment
PPM	Parts per Million
POTW	Publicly Owned Treatment Works
SARA	Superfund Amendments and Reauthorization Act
SIC	Standard Industrial Classification
SU	Standard Units
SWMP	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
SWQS	Surface Water Quality Standards
TMDL	Total Maximum Daily Load
TTL	Tempe Town Lake

1.0 EXECUTIVE SUMMARY

The City of Tempe Stormwater Management Plan (SWMP) identifies the major programs, policies, and procedures implemented by the city to minimize the impact of urban activities on the quality of stormwater. Tempe is required to develop this plan as a municipality authorized to discharge stormwater as a Municipal Separate Storm Sewer System (MS4) under the Arizona Pollutant Discharge Elimination System (AZPDES) permit program administered by the Arizona Department of Environmental Quality (ADEQ). Tempe's Phase I MS4 Permit (Permit) was most recently reissued by ADEQ on November 24, 2010, and modified on June 3, 2011, and contains requirements for the development and content of this document. Tempe is required to develop a SWMP that outlines the specific goals, objectives, and associated timelines for the management and monitoring of activities that impact the quality of stormwater runoff based upon the Permit conditions.

The SWMP addresses seven major areas including Public Education and Outreach, Public Involvement and Participation, Illicit Discharge Detection and Elimination (IDDE), Municipal Facility Pollution Prevention, Industrial and Commercial Facilities Pollution Prevention, Construction Sites, and Post-Construction. Additionally, it includes specific details for the wet weather monitoring program. The SWMP has been written to reflect the requirements of the Permit in addition to providing the details of the major program areas; therefore the SWMP includes fourteen sections including a summary, introduction, a description of how the stormwater program is managed, sections addressing the seven major program areas, and additional sections describing the training program, the monitoring program, financial resources, and program evaluation and modification.

The SWMP is a comprehensive planning tool that guides the implementation of the stormwater program components and provides a mechanism for measuring progress towards the program objectives. It is the goal of the SWMP to reduce the discharge of pollutants to and from the MS4 to the maximum extent practical (MEP), thus protecting the quality of water in the receiving water bodies. The updated SWMP was prepared with a central focus of describing management practices and control measures established to minimize the discharge of pollutants over the current Permit term. The SWMP describes a wide range of continuing Best Management Practices (BMPs), which are being implemented during the five-year term of the Phase I MS4 Permit and describes the overall management strategies planned by the city.

The SWMP was developed with input from multiple City of Tempe departments and divisions and approved by the Director of Public Works. The Certification Statement is included in Attachment A.

Tempe has worked on Permit implementation in partnership with other Phoenix Area MS4s. In an effort to provide general implementation consistency, the City of Tempe has, in part, used a similar format and some similar general content used by the City of Phoenix in its 2008 SWMP. All program specifics are unique to Tempe.

2.0 INTRODUCTION TO THE STORMWATER MANAGEMENT PLAN

The SWMP translates the MS4 Permit requirements into city programs and procedures and is referenced by the city for development of individual ordinances, plans, policies, and procedures to protect stormwater quality.

Tempe's initial SWMP was prepared in compliance with the requirements of the MS4 Permit issued by the Environmental Protection Agency (EPA) Region 9 in 1997. The original Permit was due to expire in 2002 but was administratively continued. On December 5, 2002, EPA granted permitting authority to ADEQ to implement the National Pollutant Discharge Elimination System (NPDES) Program in Arizona. The State administers the program as the Arizona Pollutant Discharge Elimination System (AZPDES). Tempe performed a comprehensive assessment of its stormwater program in March 2002 and proposed a revised 2003 SWMP. The proposed 2003 SWMP was never approved or fully implemented. This SWMP incorporates some previously proposed management plans and further outlines the major programs and policies that the city has developed and implemented to protect stormwater quality in compliance with the Phase I MS4 Permit effective June 3, 2011. The primary program elements are illustrated in Figure 2-1.

The SWMP covers the geographic boundary of the City of Tempe with the exception of Arizona State University and Maricopa County land, both entities that maintain separate Phase II MS4 Permits.

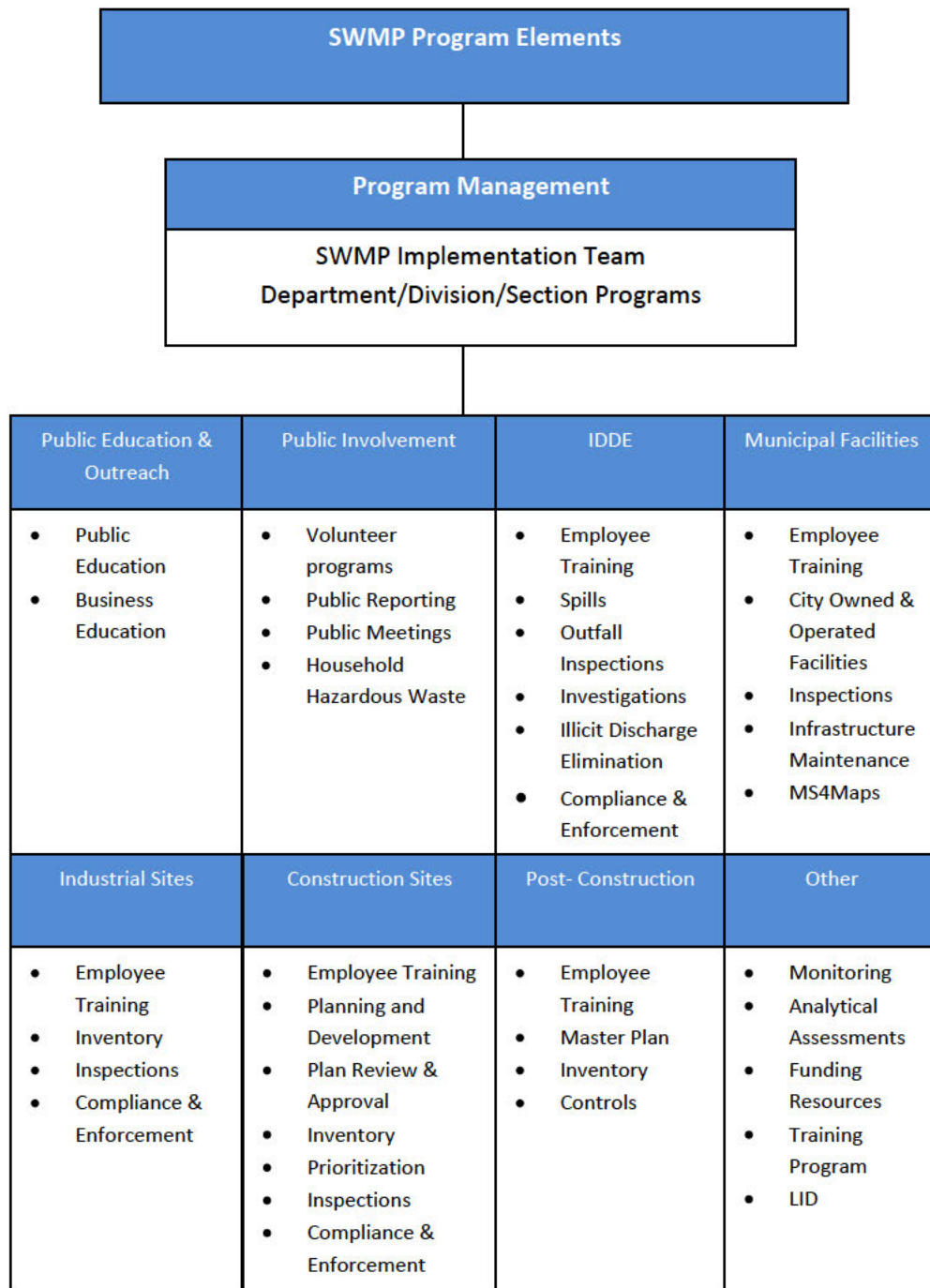
2.1 PROGRAM OVERVIEW

In addition to the descriptions of program elements contained within the SWMP, each city department or division with stormwater management responsibilities maintains documentation of its internal procedures for implementation of the program elements described in the SWMP. Examples of this documentation include the following information:

- Practices and procedures for field screening (dry weather outfall monitoring)
- City of Tempe facility assessment program and schedule
- Hazardous Waste Management Program
- Drainage system maintenance schedule for the MS4
- Development review, approval, and permitting
- Construction and Post-construction site inspection program, database, and checklist
- Industrial/commercial inspection program, database, and checklist.

Such documents are reviewed and updated as necessary or as required by Permit to keep up with changes within the city and with changing local, state, and federal regulations. These programs will remain, however, in compliance with the Phase I MS4 Permit and the programs outlined in this SWMP.

Figure 1: SWMP Program Elements



2.2 REGULATORY FRAMEWORK

2.2.1 NPDES Permitting for Stormwater Discharges

The Water Quality Act of 1987 added Section 402(p) to the Clean Water Act (CWA), which required the EPA to develop a phased approach to regulate stormwater discharges under the National Pollutant Discharge Elimination System (NPDES) program. EPA published the final regulations on the first phase of the NPDES stormwater program on November 16, 1990. These regulations, known as the Phase I stormwater regulations, established permit application requirements for discharges from municipal MS4s serving a population of 100,000 or more. As defined in 40 CFR 122.26(b)(8), the term “municipal separate storm sewer system” refers to a conveyance, or system of conveyances (including roads with drainage systems, municipal streams, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that are:

1. Owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized tribal organization, or a designated and approved management agency under Section 208 of the Clean Water Act (33 U.S.C. 1288) that discharges to waters of the United States;
2. Designed or used for collecting or conveying stormwater; and
3. Not combined sewers; or
4. Not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

The Phase I stormwater regulations require an operator of a medium or large MS4 to obtain a NPDES permit for stormwater discharges from its system. A “large MS4” is generally defined as a system serving a population of 250,000 or more, and a “medium MS4” refers to a system serving a population of 100,000 or more but less than 250,000. As specified in 40 CFR 122.26(b), these are based on the population data from the 1990 census by the U.S. Bureau of Census. EPA Region IX issued eight individual Phase I Permits for MS4s operating in Arizona. Based on the 1990 census, Mesa, Phoenix, Tucson, and Pima County operate large MS4s; and the cities of Glendale, Scottsdale, and Tempe operate medium MS4s. The Arizona Department of Transportation (ADOT) was also permitted under Phase I due to the relationship (i.e., physical interconnection) of its stormwater system with the other MS4s.

On December 5, 2002, EPA granted permitting authority to the Arizona Department of Environmental Quality (ADEQ) to implement the NPDES program in Arizona, except for discharges on Indian Lands. In Arizona, the NPDES program is administered as the AZPDES program.

2.2.2 Impaired Water Bodies

Section 303(d) of the CWA requires that states, territories, and authorized tribes develop lists of impaired waters in their jurisdictions. The lists are required to be updated every other year. Water bodies included on the 303(d) list are considered impaired because they do not meet water quality

standards for at least one designated use. As of the 2006/2008 303(d) and other impaired water lists(s), the waters of the U.S. receiving discharges from Tempe have not been identified as impaired.

2.2.3 Total Daily Load (TMDL) Allocations

At the time of Permit issuance, no Total Maximum Daily Loads (TMDLs) have been established for any water of the U.S. that receives discharges from Tempe's MS4. However, if a TMDL is established during the Permit term, the Permit may be reopened and modified to include the requirements of the TMDL and associated implementation plan.

2.2.4 Outstanding Arizona Waters

The Permit is intended to preserve and protect Outstanding Arizona Waters (OAW) within the State of Arizona. At the time of Permit issuance, no water of the U.S. receiving discharges from the MS4 has been classified as an OAW. However, if a water of the U.S. that has the potential to be impacted by the MS4 discharge is classified as an OAW during the Permit term, the Permit may be reopened and modified to include additional conditions to ensure that the OAW is adequately protected.

2.2.5 Receiving Waters

The Permit authorizes stormwater discharges from the Tempe MS4 to waters of the U.S., directly and by way of other conveyances not owned or operated by Tempe. Arizona Water Quality Standards that apply to the waters of the U.S. receiving discharges from Tempe are specified in A.A.C. Title 18, Chapter 11, Article 1.

The Tempe MS4 has potential to discharge stormwater to waters of the U.S., including the Salt River, Indian Bend Wash, Tempe Town Lake, Kiwanis Park Lake, Papago Park South, Gila River, and some Phoenix Area Canals.

2.3 TEMPE AREA WATER QUALITY CONCERNS AND CLIMATE

2.3.1 Stormwater Runoff and Urbanization

Urbanization alters the natural infiltration capability of the land and generates pollutants associated with the activities of dense populations. Thus, urbanization causes an increase in the volume of stormwater runoff and the pollutant loadings in stormwater discharged to waters of the U.S. (EPA, 1992). Urban development increases the amount of impervious surface in a watershed as farmland and other undeveloped land with natural infiltration characteristics are converted into buildings with rooftops, driveways, sidewalks, roads, and parking lots with no ability to absorb stormwater. Stormwater washes over these impervious areas, picking up pollutants along the way, and gains speed and volume because it is unable to disperse and filter into the ground. As a result, stormwater flows are higher in volume, pollutants, and temperature than the flows in less impervious areas which have more natural vegetation and soil to filter the runoff (EPA, 1997). In addition to increased impervious areas, urban development creates new pollution sources as population density increases and generates higher levels of car emissions, fertilizers and pesticides, litter, pet wastes, and household hazardous wastes. These pollutants can be washed into surface waters by stormwater runoff or may be dumped directly

into storm drains that discharge to waters of the U.S. Therefore, higher population densities and increased impervious areas generally result in a greater concentration of pollutants in stormwater discharges from municipal separate storm sewer systems (Tempe AZPDES Fact Sheet, 2010).

2.3.2 Construction Impacts and Stormwater Runoff

Stormwater discharges generated during construction activities can also cause physical, chemical, and biological water quality impacts and compromise the integrity of surface waters. A primary concern at most construction sites is the erosion and transport process related to fine sediment because rain splash, rills, and sheet wash encourage the detachment and transport of this material to water bodies. Water quality impairments can result because a number of pollutants are absorbed onto fine sediment particles. The interconnected process of erosion (detachment of the soil particles), sediment transport, and delivery is the primary pathway for introducing pollutants, such as nutrients (particularly phosphorus), metals, and organic compounds into aquatic systems (Tempe AZPDES Fact Sheet, 2010).

2.3.3 Non-Stormwater Discharges

The Tempe MS4 can receive non-stormwater discharges. Many non-stormwater discharges are prohibited by the MS4 Permit unless authorized separately under the AZPDES Program or are not determined to be a significant source of pollutants. See Section 6.5.2 for a description of non-stormwater discharges that may be allowed. Other non-stormwater discharges may be illicit or exempt from regulation.

Sources of illicit discharges can include sanitary and industrial wastewater, oils and greases, and other chemicals. These types of illicit discharges may contain heavy metals, toxics, oil and grease, solvents, household hazardous materials, radiator fluids, litter, viruses, and bacteria. Many aspects of Tempe's program are designed to prevent, respond to, investigate, and mitigate such discharge events.

Sources of exempt discharges that are routinely found in the MS4 are largely irrigation return water. These discharges have been found to not be a significant source of pollutants.

2.3.4 Climate

The City of Tempe is located in the semi-arid climate of southwest-central Arizona. This climate provides a variety of temperatures from hot summers, when temperatures tend to be in the 100's, to cool winters, when temperatures tend to be in the 60's.

The warmest month of the year is July, with an average maximum temperature of 105 degrees Fahrenheit, while the coldest month of the year is January, with an average minimum temperature of 39 degrees Fahrenheit. Temperature variations between night and day tend to be about 26 degrees Fahrenheit.

The annual average precipitation in Tempe is 7.6 inches, with an average of 35 days a year receiving rain. Precipitation events are categorized into winter storms and summer storms. Winter storms generally occur between October and May and tend to originate from the North Pacific Ocean. Storm

precipitation during this time of year tends to be light, extending over relatively large areas. Summer storms generally occur between June and October and tend to originate from the southern Pacific Ocean. Precipitation during summer storms generally consists of short, heavy rains over localized areas

3.0 PROGRAM MANAGEMENT

3.1 PERMITTEE RESPONSIBILITIES

The MS4 Permit is administered by Tempe’s Water Utilities Division. However, multiple city departments and divisions are involved with the day-to-day responsibilities of implementing the stormwater program. A SWMP Implementation Team is tasked with overseeing and assessing progress on each of the elements of the program. The Team includes representatives from each of the following city departments and divisions and functions with direct stormwater responsibilities:

Table 1: City Responsibilities

Department/Division	Responsibilities
Water Utilities Division	Program Administration Public Education & Outreach Public Involvement Illicit Discharge Detection and Elimination Industrial Inspections Outfall Inspections Enforcement & Compliance Wet Weather Monitoring Data analysis Reporting Drainage System Inspection Maintenance Mapping CCTV Municipal Facility Inspections Training Program Oversight
Transportation Division	Drainage System Inspection Maintenance Roadway Maintenance and Street Sweeping Volunteer Programs
Engineering Division	Construction Inspections Post-Construction Inspections Enforcement & Compliance
Field Operations Division	Drainage System Inspection Maintenance Volunteer Programs Household Hazardous Waste
Community Relations Office	Public Education & Outreach Public Involvement
Community Development Department	Construction Plan Review

The purpose of the SWMP Team is to direct the implementation of the SWMP and to coordinate program implementation at the appropriate organizational level. The SWMP Team members also provide technical assistance and support to the city stormwater program administrator when changes to legislative initiatives and regulatory requirements occur.

3.2 FUNDING SOURCES

Implementation of the SWMP is funded through the following sources:

- **Water/Wastewater Enterprise Fund:** Funds most direct MS4 Permit compliance program activities
- **General Fund/Solid Waste Enterprise Fund:** Funds a portion of MS4 Permit compliance activities
- **Capital Improvement Fund:** Funds most large MS4 projects.

A detailed fiscal analysis will be provided to ADEQ as a component of the Annual Report.

3.3 LEGAL AUTHORITY AND ENFORCEMENT

3.3.1 Legal Authority

Tempe is required to continue to maintain and enforce legal authority to control the discharge of pollutants to the MS4 through ordinance, statute, permit, contract, or similar means. This legal authority must, at a minimum, authorize Tempe to:

- Control the contribution of pollutants to the MS4 by stormwater discharges associated with industrial activity (as defined by 40 CFR 122.26(b)(14)) and the quality of stormwater discharged from sites of industrial activity;
- Control the contribution of pollutants to the MS4 by stormwater discharges associated with construction activity and the quality of stormwater discharged from construction sites;
- Prohibit illicit connections and discharges to the MS4;
- Control discharges to the MS4 of spills, dumping, or disposal of materials other than stormwater;
- Require compliance with conditions in ordinances, Permits, contracts, or orders;
- Carry out all inspection, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with Permit conditions, including the prohibition of illicit discharges to the MS4; and
- Establish requirements for post-construction stormwater controls.

Tempe maintains this authority in Chapter 12, Articles IV and VI; and Chapter 19, Article IV of the Tempe City Code. Copies of these ordinances can be found in Attachment B. Over the course of the Permit term, Tempe will review and amend the Code where necessary.

Tempe does not have the authority to enforce the provisions of Arizona's General Permit for Stormwater Discharges Associated with Industrial Activities, Arizona's General Permit for Stormwater

Discharges Associated with Construction Activity, or Arizona's De Minimis General Permit. The AZPDES permit program is administered by ADEQ. However, local stormwater and grading and drainage ordinances may address items similar to those identified in these statewide permits.

3.3.2 Enforcement

No later than January 3, 2013, Tempe is required to create a stormwater specific Enforcement Response Plan (ERP) for resolving all stormwater violations. Pending this plan, Tempe will continue to enforce the stormwater ordinance under existing policies and procedures. See Section 6.6 for existing enforcement procedures. All formal stormwater enforcement activities are conducted by Tempe's Environmental Compliance Inspectors. General construction/post-construction violations that don't have potential to result in an illicit discharge are enforced by Tempe's Engineering Division.

The city maintains records of enforcement activities including:

- Inspection reports and narratives
- Copies of communications with the parties in violation of city code
- Documentation of follow-up actions
- Responses received from violators

4.0 PUBLIC EDUCATION AND OUTREACH

4.1 INTRODUCTION

Public education and outreach is an important element of Tempe's stormwater program. Increasing public awareness of stormwater pollution concerns and prevention ultimately serves to reduce the contribution of pollutants in stormwater runoff. Tempe will continue to operate a city-wide public education and outreach program and, where feasible, continue efforts regionally through involvement with organizations such as Stormwater Outreach for Regional Municipalities (STORM) and Valley Forward as long as these organizations continue to provide value to the City.

4.2 MS4 PERMIT REQUIREMENTS

The city's MS4 Permit identifies target audiences and topics for the public education & outreach component of the SWMP. These requirements are divided into two distinct categories: public and business sector.

4.2.1 Business Sector

Tempe will provide business sector education/outreach to at least one (1) target group on one (1) or more appropriate topic(s) listed in Table 2 during each year of the Permit. The annual report will summarize the outreach approach selected for each event, the topic, the target group, and an estimated number of participants reached.

Table 2: Business Sector Education and Outreach Requirements

Target Group	Topics
Development Community	<ul style="list-style-type: none"> Planning ordinances and grading and drainage design standards for stormwater management in new developments and significant redevelopments
Construction Site Operators	<ul style="list-style-type: none"> Municipal stormwater requirements and stormwater management practices for construction sites
Targeted sources or Types of Businesses (industrial or commercial)	<ul style="list-style-type: none"> Illicit discharges and proper management of non-stormwater discharges Spill prevention, proper handling of toxic and hazardous materials, and measures to contain and minimize discharges to the storm sewer system
Restaurants	<ul style="list-style-type: none"> Proper management and disposal of used oil and other toxic materials, including practices to minimize exposure of materials/wastes to rainfall and minimize contamination of stormwater runoff
Downtown Tempe Vendors/Businesses	<ul style="list-style-type: none"> Stormwater management practices, pollution prevention plans, and facility maintenance procedures Fats, oils, and grease disposal Automotive repair Exterior building wash Cooling towers

4.2.2 Public

Tempe will provide public education/outreach to at least one (1) target group on one (1) or more of the topics listed in Table 3 during each year of the Permit. The annual report will summarize the outreach approach selected for each event, the topic, the target group, and an estimated number of participants reached.

Table 3: General Public Education and Outreach Requirements

Target Group	Topics
General Public	<ul style="list-style-type: none"> • Post-construction ordinances and long-term maintenance requirements for permanent stormwater controls • Stormwater runoff issues and residential stormwater management practices • Potential water quality impacts of application of pesticides, herbicides, and fertilizer, and control measures to minimize runoff of pollutants in stormwater and any applicable permitting requirements • Potential impacts of animal waste on water quality and the need to clean up and properly dispose pet waste to minimize runoff of pollutants in stormwater • Illicit discharges and illegal dumping, proper management of non-stormwater discharges, and information on reporting spills, dumping, and illicit discharges • Spill prevention, proper handling and disposal of toxic and hazardous materials, and measures to contain and minimize discharges to the storm sewer system
Residential Community	
Home Owners/ Home Owner Associations	
Schools	
Downtown Tempe Visitors	
Tempe Town Lake Visitors	
	<ul style="list-style-type: none"> • Installation of catch basin markers or stenciling of storm sewer inlets to minimize illicit discharges and illegal dumping to the storm sewer system • Proper management and disposal of used oil • Proper maintenance of pools and spas • Proper disposal of medication • Good home repair practices • Residential/general public auto repair • Residential/general public fats, oils, and grease disposal practices

4.3 IMPLEMENTATION

The city will continue to implement existing program elements and further expand the scope of stormwater-related public education and outreach activities to meet target group and topic requirements. Mechanisms used to disseminate education and outreach messages will include, but are not limited to, the following:

- Commercial and Industrial electronic “Environmental Bulletins”
- Tempe water and wastewater customer newsletters

- Social media
- Public events
- News releases
- City websites
- City of Tempe facilities

Tempe will also to continue the development and distribution of numerous BMP brochures and other various handouts used to convey various stormwater educational messages.

5.0 PUBLIC INVOLVEMENT

5.1 INTRODUCTION

The Permit requires Tempe to engage the public to help spread the message on preventing stormwater pollution, to undertake group activities that highlight storm drain pollution, and contribute volunteer community actions to restore and protect local water resources.

5.2 MS4 PERMIT REQUIREMENTS

Tempe is required to implement at least one (1) of the following requirements during each year of the Permit to provide fundamental support to the city's SWMP. Under each requirement is a description of public involvement activities designed to meet the applicable Permit condition. Appropriate documentation of activities will be provided in the annual report.

Requirement: *Provide the opportunity to involve the public in the city's stormwater management program and encourage public participation in monitoring and reporting spills, discharges, or dumping within their communities (such as facilitation of neighborhood watch groups) once per year.*

Activities: Tempe continues to provide the public with the opportunity to participate actively in the city's stormwater program by providing avenues for the reporting of spills, discharges, or dumping within the community. In this capacity, Tempe continues to operate its stormwater hotline and web-reporting form for public reporting of illegal discharges to the city's storm drain system. Means of reporting are as follows:

- 480-350-2811
- <http://www.tempe.gov/stormwater/stormwatercomplaintform.htm>

In addition, Tempe regularly disseminates the general Environmental Services Section phone number and stormwater webpage for purposes of allowing public discussion of stormwater issues and providing copies of stormwater material and the most current SWMP. The general contact number and program information location are as follows.

- 480-350-2678
- <http://www.tempe.gov/stormwater/>

Participation is also encouraged during outreach events and public awareness activities, and contact information is provided with all outreach materials.

Requirement: *Provide the public with education on SWMP implementation and the opportunity to give feedback during bi-annual open meeting events. Involve the public with ordinance development and adoption. These events shall begin after ADEQ has approved the SWMP.*

Activities: At least bi-annually, Tempe will incorporate “open meeting events” into community activities or other public events. These open forums will be used for public education, input, and feedback on the city’s stormwater management program.

Tempe will continue to allow for public comment and participation with any ordinance related modifications.

Requirement: *Provide the public the opportunity to participate in the city’s stormwater management program, such as voluntary litter control activities (e.g., facilitation of Adopt-A-Park, Tempe Town Lake clean-up, or Adopt-A-Street litter control activities) or voluntary erosion control projects. Maintain and support program as a regular ongoing activity.*

Activities: In 2011, Tempe began using volunteer programs such as Adopt-A-Park and Adopt-A-Street as a component of the public involvement and participation portion of the city’s stormwater program. The addition of programs such as these has allowed for a more detailed and accurate assessment of proactive pollutant prevention and elimination activities, and allows the public and community service workers an opportunity to help Tempe remove trash and debris that could otherwise end up in the MS4 system and/or subsequently a water of the U.S. Information on Tempe’s Adopt-A-Park and Adopt-A-Street can be found at:

- <http://www.tempe.gov/parks/adoptapark/>
- <http://www.tempe.gov/tim/adoptastreet/>

In addition to these programs, Tempe will continue to maintain “doggy bag” dispensers at various Tempe parks. This activity specifically involves the public in the reduction of pet waste that has a potential to reach the MS4.

Requirement: *Provide the public with a household hazardous waste program to facilitate proper disposal of used oil, antifreeze, pesticides, herbicides, paints, and other hazardous and toxic materials by city residents (such as scheduled household hazardous waste collection events or operation of full-time disposal facilities) a minimum of two (2) times per year for the first two (2) years of the permit, six (6) times per year for years three (3) and four (4) of the permit, and eight (8) times per year thereafter.*

Activities: Tempe continues to operate its Household Products Collection Center (HPCC), which opened in 1999. The HPCC provides Tempe residents with an outlet for disposing of and recycling potentially hazardous household products. Materials commonly collected include batteries, used motor oil, paint, antifreeze, pesticides, herbicides, and solvents. Materials are either recycled or disposed of in accordance with local, state, and federal regulations. Usable materials, such as paint, are processed, packaged, and made available to Tempe residents free of charge. Information on the HPCC and the proper handling and disposal of household waste, is available at www.tempe.gov/HHW

6.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION

6.1 MUNICIPAL EMPLOYEE TRAINING

Please see Section 11 for employee training information.

6.2 SPILL PREVENTION AND RESPONSE

Several Permit sections require various plans, documents, or procedures ensuring the proper handling, storage, and disposal of chemicals and response to chemical spills. Tempe's efforts in this area involve several city sections, all of which serve an important role related to the protection of human life and the environment. Below is a summary of activities performed by various city sections.

Environmental Services

Tempe's Environmental Services Section is responsible for industrial, commercial, and initial municipal facility stormwater inspections required by the Permit. In part, the purpose of these inspections is to ensure proper housekeeping and the implementation of stormwater BMPs pertaining to spill prevention. During these inspections, facility chemical storage practices are reviewed from an environmental protection perspective. All inspected facilities are advised of chemical handling BMPs. Municipal facilities at which any single container exceeding five (5) gallons of a hazardous material is stored are required to post or maintain documentation of practices and procedures designed to prevent and respond to spills that may come into contact with stormwater. Industrial and commercial facilities are required to demonstrate appropriate MS4 protection.

Tempe's Environmental Services Section is also responsible for city-wide MS4 stormwater training and city-wide education and outreach. Much of this training and community education/outreach includes the topics of proper chemical handling, spill prevention, storage, disposal, and spill response practices.

Household Products Collection Center

The HPCC provides various levels of support for all aspects of chemical handling, storage, disposal, and spill response practices. In large part, the HPCC is a city-wide liaison for the acquisition of necessary spill prevention and response equipment and Tempe's in-house mechanism for the disposal of chemical wastes. The HPCC also maintains and implements Tempe's Hazardous Waste Management Plan (HWMP).

Risk Management

Risk Management provides support, guidance, and training in areas related to chemical handling, storage, and spill response. All city-wide safety programs are managed by this section and include the City of Tempe Hazard Communication Program, which was developed to inform employees of their "Right-To-Know" about all physical and health hazards associated with handling materials that contain hazardous ingredients.

Fire Department

The Tempe Fire Department provides emergency response services for incidents involving hazardous materials. Stormwater protection is a critical part of emergency response procedures and is included as part of the city's emergency response training. The Tempe Fire Department's Hazardous Materials Policy addresses containment of hazardous materials as a critical component of spill response procedures.

City-wide

In the event a spill occurs, regardless of origin, cause, location, etc., Tempe can utilize contracted environmental response professionals for responses for which the city is not equipped.

6.3 MAJOR OUTFALLS

6.3.1 Outfall Inventory

Tempe has identified 41 major outfalls as defined by 40 CFR 122.26. A list identifying the outfall name, size, location (latitude/longitude), receiving water, and priority status can be found in Attachment C. A map of all Tempe outfalls can be found in Attachment H. The number of major outfalls is subject to change based upon system changes or the identification of previously unidentified outfalls.

6.3.2 Inspection Priority and Schedule

Of these 41 major outfalls, 15 are identified as priority outfalls. Priority outfalls are determined using the following criteria:

- All outfalls that discharge to an impaired or an outstanding Arizona water (OAW) or other perennial water
- All outfalls that have been a source of illicit discharge in the past five (5) years (unless the source has been eliminated or has been shown not to be a significant source of pollutants)
- All outfalls identified as priority by the city for illicit discharges or other non-stormwater flows

The number of priority outfalls is subject to change based upon changes in receiving water designation, detection of illicit discharges that have not been eliminated or shown to be a significant source of pollutants, elimination of illicit discharges or confirmation that non-stormwater flows do not contain a significant source of pollutants, or other factors.

All major outfalls are inspected annually, and all priority outfalls are inspected semi-annually. If prohibited discharges are identified, more frequent quarterly inspections may be implemented.

6.3.3 Field Screening Procedures

Outfall inspections are conducted utilizing standard field screening procedures and are typically completed when rainfall, temperature, and moisture are lowest, but may be conducted at any time in dry weather conditions.

For each outfall or field screening point, the following information is recorded on an individual screening log:

General Information

1. Date and Time of Inspection
2. Name of Inspector
3. Outfall Location/Description/Condition
 - a. Outfall ID and description (MH, channel, outfall, etc.)
 - b. Location description if not an outfall (GPS Coordinates)
 - c. Structural integrity of MS4 component
4. Time since last measurable rain event and approximate amount (> or < 72 Hours)
5. Watershed Use (industrial, commercial, residential, etc.)
6. Estimated Flow Rate (if flow exists)
7. If flow exists, determination if flow has already been shown not to be illicit or a significant source of pollutants.
 - a. If yes, document finding (i.e., tail water, TTL bypass, dechlorinated pool backwash, etc.), conduct any field screening the inspector feels may be relevant and complete inspection report.
 - b. If no, continue with full analysis of physical and chemical observations.

Physical/Chemical Observations

If screening is needed based upon General Information findings, the parameters in Table 4 will be observed or field tested and documented.

Table 4: Field Screening

Parameter/ Analyte	Method	Trigger
Color	Visual	“Off-Color”
Odor	Visual	Chemical, gas, or sulfur
Clarity	Visual or Field	Highly Turbid
Floatables/Oil	Visual	Presence of solid or liquid floatables or sheen
Stains/Deposits	Visual	Presence
Biological Growth	Visual	Excessive growth or dead
Temperature	Field	Hot or cold compared to ambient
pH	Field	< 6.5 or >9 S.U.
Total Chlorine	Field	>20 ppb, >4 ppm, depending on SWQS
Copper	Field	Presence
Phenol	Field	Presence
Detergents	Field	Presence

Any flow for which the discharge is not known or at least one analytical trigger is exceeded must be screened again within a 24-hour period, with a minimum period of four hours between samples.

- If upon the second screening the flow remains or the analytical trigger is still exceeded, a source identification investigation will be initiated.
- If upon the second screening the flow is absent and the analytical trigger is no longer exceeded, a screening follow-up will occur at the same location within three (3) months. If the three-month follow-up screening does not detect flow or a trigger exceedance, routine screenings at this location will resume. If the three-month follow-up does indicate flow or an analytical trigger exceedance, a source identification investigation will be initiated.

Once inspections are completed, field data forms are provided to the next level of supervision for review. Upon review completion, all forms are scanned, entered into Tempe’s document tracking system, and stored for MS4 Permit tracking and reporting.

6.3.4 Industrial Facility Inspections

Tempe inspects industrial and commercial facilities to identify potential sources of illicit discharges to the storm sewer system. These inspections may be initiated as a result of a complaint or may be part of Tempe’s industrial/commercial facility inspection program. Please see Section 8 for more detailed industrial/commercial facility inspections information.

6.4 ILLICIT DISCHARGE INVESTIGATIONS

City of Tempe Environmental Compliance Inspectors will use IDDE investigation measures when potential illicit discharge or dry weather flows are identified or reported. Such flows may be identified

during outfall inspections, field reconnaissance, industrial inspections, or when reported to the Environmental Services Section by other City of Tempe personnel, the public, or other sources.

6.4.1 Investigation Priorities

Tempe will respond to 90% of all reported illicit discharges and initiate investigation of these discharges within three (3) business days of detection or reporting. If the discharge is found to be illicit, corrective action, including enforcement mechanisms, will be used to eliminate illicit discharge within 60 days of identification, when feasible. Discharges found to not be a significant source of pollutants are not subject to the 60 day timeframe, but Tempe will maintain documentation of all investigations, sampling, and information used to assess "significance".

Any identified wastewater discharges, such as raw sewage or grease, will be immediately investigated and eliminated as soon as practicable.

6.4.2 Investigations

Investigations may include field screening, discharge sampling, data collection, industrial inspections, research, or stormwater infrastructure inspections. Investigations will begin with the use of field screening tools, if needed or available. For some illicit discharges for which the discharge is known (i.e., sewage, grease, oil, solids, etc.), field screening is not necessary and resources will be utilized to eliminate the discharge. Note that all outfall illicit discharge investigations will use Field Screening Procedures. Any discharge or dry weather flow that exceeds a field screening trigger will be investigated. If field screening indicates the presence of a prohibited discharge, Tempe inspectors will physically "trace" the prohibited discharge upstream. The following protocol will be used to trace prohibited discharges to a source:

- Successive storm drain access points (catch basins, manholes) upstream of the outfall or discharge location will be inspected for flow until no flow is identified.
- Properties located along last run in which flow is identified will be inspected for illicit discharges or connections by inspectors.
- If visual inspections do not result in the detection of illicit discharges or connections in the last wet run, CCTV equipment will be utilized to locate the source(s) of the flow.
- Analytical sampling may be conducted at the outfall or in the storm drain to help assess the source by identifying specific pollutants. See Section 6.4.3.

Information gathered from these activities will be used for discharge source identification, discharge characterization, and corrective action, if necessary.

6.4.3 Monitoring

If the source of an illicit discharge cannot be identified through physical investigations and field screening, grab samples will be collected at the outfall or field location where the prohibited discharge occurred and analyzed at a state certified lab for any appropriate combination of the pollutants listed in Table 5.

Table 5: IDDE Monitoring

Parameters	
Biological Oxygen Demand (BOD)	Iron
Chemical Oxygen Demand (COD)	Lead
Total Suspended Solids (TSS)	Magnesium
Arsenic	Mercury
Aluminum	Nitrate+Nitrite N
Ammonia	Phosphorous
Cadmium	Selenium
Copper	Silver
Cyanide	Zinc

If additional analytical information is needed, further sampling will be conducted. The results of this analytical monitoring will be used to help narrow investigative leads.

6.4.4 Identification and Elimination

Tempe Inspectors will use the collected information to help identify and eliminate illicit discharges. Once the flow and source is identified, Tempe will take necessary corrective action consistent with City of Tempe Ordinance.

6.4.5 Tracking and Reporting

Non-stormwater discharges identified by field personnel are recorded in a “callout” database. After inspections are completed, findings and any actions initiated are indicated in the appropriate database fields. This information is provided in the Annual Report.

6.5 ILLICIT DISCHARGE ELIMINATION

Tempe has adopted ordinances prohibiting and eliminating illicit discharges and has established programs to enforce them. Tempe maintains this authority in Chapter 12, Articles IV and VI; and Chapter 19, Article IV of the Tempe City Code. Copies of these ordinances can be found in Attachment B. Through enforcement of City code and implementation of this SWMP, Tempe is able to prevent and eliminate illicit discharges to the MS4.

6.5.1 Ordinance

Tempe’s stormwater ordinance prohibits non-stormwater discharge to the public storm drain system. This prohibition does not apply to discharges authorized by ADEQ or EPA or discharges that are not anticipated to be a significant source of pollutants. Any discharge that could result in or contribute to a violation of Tempe’s Phase I MS4 Permit is also prohibited. Tempe’s ordinance also allows for enforcement of code violations and any preventative or mitigation measures that may be needed.

6.5.2 Non-Stormwater Discharge Evaluation

The following non-stormwater discharges are not addressed by the IDDE Program in accordance with 40 CFR 122.26(d)(2)(iv)(B)(1) and Tempe City Code, Section 12-125(C)(3), provided they are not significant sources of pollutants to waters of the United States:

- Water line flushing and other discharges from drinking water sources
- Lawn watering
- Irrigation water
- Diverted stream flow
- Rising groundwater
- Uncontaminated groundwater infiltration
- Uncontaminated pumped groundwater
- Foundation and footing drains
- Water from crawl space pumps
- Air conditioning condensation and evaporative cooler run-off
- Natural springs
- Individual residential car washing
- Flows from riparian habitats and wetlands, as those areas are designated under applicable federal and state laws
- Dechlorinated swimming pool discharges

These, and other discharges, are managed as a result of notification from the public or Tempe employees, inspections, and/or investigations. If a discharge must be eliminated, Tempe inspectors will initiate enforcement action.

6.5.3 Non-Stormwater Discharge Records

See Section 6.4.5.

6.6 COMPLIANCE ACTIVITIES AND ENFORCEMENT

No later than January 3, 2013, Tempe is required to create a stormwater specific ERP for resolving all stormwater violations. Pending the development of this plan, Tempe will continue to enforce the stormwater ordinance under existing policies and procedures. All formal stormwater enforcement activities are conducted by Tempe's Environmental Compliance Inspectors. General construction/post-construction violations (i.e. stormwater control measures) are enforced by Tempe's Engineering Division.

The city's current enforcement response to any stormwater violation or deficiency may include, but is not limited to, the following:

- Contact by Environmental Compliance Inspector
- Provide educational material of BMP and Code requirements and/or prohibitions

- Written warning letter advising the person of the specific code violation(s)
- Written order to immediately remove pollutant from MS4 and to restore to original condition
- Written order to implement or correct BMP activities
- Issuance of Notice of Violation
- Issuance of Administrative Order, which may include:
 - Affirmative obligations; i.e., increased sweeping or track out pad maintenance
 - Prohibited actions or obligations to cease and desist
 - Administrative fines
 - Other appropriate orders
- Hearing to show cause
- Civil Actions, including injunctive relief
- Criminal Prosecution

Compliance activities and enforcement actions will be summaries in the Annual Report.

7.0 MUNICIPAL FACILITY POLLUTION PREVENTION, GOOD HOUSEKEEPING PRACTICES AND ACTIVITIES

7.1 MUNICIPAL EMPLOYEE TRAINING

Please see Section 11 for employee training information.

7.2 MUNICIPAL FACILITY STORMWATER INSPECTION PROGRAM

Tempe has implemented a Municipal Stormwater Inspection Program for facilities that are owned and/or operated by Tempe. Once fully evaluated, facilities will be ranked by potential to discharge pollutants in stormwater and inspected based upon the Permit driven criteria. Initial facility assessments will be conducted by the Tempe Environmental Services Section and subsequent inspections will be conducted by facility managers or designees.

7.2.1 Inventory

At the time of SWMP development, Tempe has identified and inventoried 140 facilities. A list of currently inventoried facilities can be found in Attachment D and a map of general facility location can be found in Attachment H. This inventory is subject to change based upon internal annual reviews.

Tempe has developed an inventory of all city facilities that are subject to inspection under the Permit. This information was obtained from internal municipal sources and the list will be reviewed and updated annually. Types of facilities inventoried include, but are not limited to:

- City parks, golf courses, and other recreational facilities (where landscape maintenance; herbicide, pesticide, and fertilizer application; and waste management are implemented)
- Public swimming pools (pool maintenance/repair and chemical storage)
- Water treatment plants
- Fire stations and other city fleet maintenance facilities (vehicle washing and maintenance, chemical handling, waste storage)
- POTWs and sludge handling areas
- Material and waste storage and processing facilities, including oil collection facilities

7.2.2 Prioritization

Based upon initial inspections, Tempe will prioritize inventoried municipal facilities based upon on-site risk factors and Permit-required criterion. Based upon these factors, each facility will be given a priority ranking and corresponding inspection schedule. Table 6 summarizes these priorities.

Table 6: Facility Ranking Criteria

Municipal Stormwater Inspection Program Priorities	
Priority #1:	To be inspected biennially
<ul style="list-style-type: none"> • Potential to discharge a substantial pollutant load to the MS4 or waters of the U.S. • High potential for spills • Chemical storage in single containers over 5 gallons • Fueling Stations • Outside handling or storage of chemicals or hazardous waste and has potential for exposure to stormwater 	
Priority #2	To be inspected every three (3) years
<ul style="list-style-type: none"> • Minimal potential to discharge a substantial pollutant load to the MS4 or waters of the U.S. • Low potential for spills • Chemical storage in single containers over 5 gallons • Outside handling or storage of chemicals or hazardous waste that has minimal potential for exposure to stormwater 	
Priority#3:	To be inspected every five (5) years
<ul style="list-style-type: none"> • Minimal or no potential for stormwater to discharge a substantial pollutant load to the MS4 or water of the U.S. • Minimal or no chemical storage • Minimal to no outside handling or storage of chemicals • No hazardous waste on site 	

For purposes of this inspections program, a City of Tempe Facility Chemical Handling and Spill Procedures document has been developed to outline practices and procedures designed to prevent and respond to spills that may come into contact with stormwater. This document is a single page, easy to read, and designed to be posted at any municipal facility that handles, stores, or otherwise uses hazardous material where any single container exceeds five (5) gallons. Note that any facility that falls within this chemical handling description automatically requires inspection at least every three years regardless of other factors. Any facility that maintains separate MSGP or other AZPDES coverage must meet the most stringent chemical handling and storage requirements. A list of all Tempe facilities that are subject to MSGP or SARA Title III requirements can be found in Attachment E.

7.2.3 Process

Initial municipal facility inspection will be conducted by Tempe's Environmental Services Section and subsequent inspections will be conducted by facility managers or their designee. All inspections will be documented using inspection forms. Municipal facilities will be inspected, prioritized, and placed on an inspection schedule by January 2013.

During initial facility inspections, employees at the inspected facilities will receive brief "stormwater awareness" reminders. These reminders are not formal, are separate from Permit-required municipal

employee training, and are designed to provide general awareness of the Permit to those that do not require formal training.

Facility inspections requiring follow-up action or facility improvements must be satisfactorily addressed within three (3) months of inspection date. The information gathered on the inspection forms and follow-up corrective correspondence will be used to prioritize or re-prioritize facilities for future inspections.

All inspection reports and summarized inspection and follow-up activities will be reported to ADEQ in the Annual Report.

7.3 HAZARDOUS WASTE MATERIAL HANDLING

Any facility that handles, stores, transports, disposes of, or generates hazardous waste must maintain a copy and follow procedures outlined in Tempe's HWMP. This plan is managed by Tempe's Environmental Safety and Compliance Section and is reviewed and revised, if necessary, at least every two years. At least one reviewing member includes an Environmental Services Section member that is knowledgeable in stormwater regulations and may provide recommendations that include practices to minimize hazardous material exposure to precipitation.

In addition to the HWMP, Tempe has implemented a Hazardous Waste Minimization Plan. As a generator of hazardous waste, the City of Tempe requires employees to implement waste minimization practices. Waste Minimization effectively reduces the amount of hazardous material that permanently leaves the process or operation areas as waste. Minimization of hazardous wastes results in a reduced need for disposal, a lessened risk to the community and environment from hazardous waste releases, and conservation of natural resources.

7.4 PESTICIDES, HERBICIDES, AND FERTILIZERS

Tempe continues to reduce the amount of pesticides and herbicides used by employing integrated pest management practices. However, when pesticide use is needed, established pesticide application best management practices are utilized.

To minimize pesticides in stormwater runoff, the following best management practices (BMPs), for pesticide and herbicide applications by city staff are followed. These guidelines involve employing natural and physical controls and, when possible, using the least toxic chemicals.

- Apply pesticides that are Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) approved for aquatic application in any area within or adjacent to waters of the U.S., including ephemeral washes.
- If application directly to water bodies or to banks of water bodies requires permit coverage, appropriate coverage will be obtained.
- Applicators must be certified in the appropriate license category with the Arizona Office of Pest Management or be employees under the direct supervision of a certified employee.

- The chemical storage areas, designated pest control vehicles, pest control logs, MSDSs, sample labels, and PPE are to be kept in accordance with Arizona Office of Pest Management regulations.
- Application/disposal/spill cleanup procedures adhere to label and MSDS instructions.
- When possible, integrated pest management (IPM) practices should be considered, using minimal or no pesticides and alternative natural approaches to remove unwanted pests.
- Pesticides should only be used when needed and as a last resort.
- Spot treatment should be used when possible, using the minimal effective amount of the least toxic chemicals.
- Equipment should be calibrated and maintained to prevent over application.
- Minimize off target effect: 1) avoid application during winds greater than 5 mph to prevent drift, 2) power sprayers should be used in a manner to prevent drift and application of chemical to areas that don't require treatment, 3) avoid application when rain is expected to prevent runoff.
- Annually review procedures to ensure BMPs are being followed.

7.5 INFRASTRUCTURE INSPECTION AND MAINTENANCE

Tempe manages several proactive program activities designed to minimize the discharge of pollutants from Tempe owned and operated infrastructure. These activities involve the routine inspection, cleaning, and maintenance of stormwater infrastructure and involve several separate city workgroups: Environmental Services, Parks, Streets, Water Engineering, and Utility Services. Each section maintains responsibilities for various aspects of stormwater infrastructure inspection and cleaning/maintenance. For purposes of this program, infrastructure includes all aspects of the MS4 such as catch basins, drywells, bubbler boxes, inlet structures, outfalls, streets, conveyance pipes, retention basins, etc. Outfall inspections are covered separately in Section 6.3 and Municipal Facilities Inspections are covered in Section 7.2.

The sections below outline defined areas of the MS4 drainage system that are a priority for inspection and are based upon system history, location within the city (e.g., downtown), public input, workgroup specialties, etc. Each city section that conducts activities is required to routinely enter program activities into Tempe's compliance tracking data-base for evaluation of program status. This information is routinely reviewed by Tempe's Regulatory Compliance Group and provided to ADEQ annually in the Annual Report.

Note that Tempe is required to develop a control measure field manual no later than January 2013 and implement these practices no later than January 2014. This manual will contain standard control measures and procedures for street-related repairs and improvements in a manner that protects stormwater and conveyance structures. This manual will be developed and implemented according to Permit requirements.

7.5.1 Downtown/ARCA

Within portions of the Alternative Retention Criteria Area (ARCA - defined in Section 10.3), Tempe will continue to implement an aggressive catch basin inspection and cleaning program. The primary focus of this inspection and cleaning program will be the downtown Tempe area that experiences large volumes visitors and frequent large downtown events such as 4th of July and New Year Eve festivities. Since 2003, Tempe has been inspecting catch basins in this area after a number of large downtown events and has determined that such inspections have been a highly effective means of identifying and removing potential pollutants from Tempe's stormwater infrastructure.

Environmental Compliance Inspectors will continue to conduct catch basin inspections and cleaning after at least two (2) large downtown events annually. All inspections and cleaning events are documented and reported to ADEQ annually.

7.5.2 Retention, Common, Recreation, and Open Areas

Tempe provides routine maintenance of various parks, retention areas, common areas, open areas, and recreational areas throughout the city. Since many of these areas maintain critical components of Tempe's stormwater infrastructure, the Parks Maintenance section has implemented an inspection program that will result in the inspection of over 200 stormwater infrastructure components annually. All inspections and cleaning events are documented and reported to ADEQ annually.

7.5.3 Streets

Tempe's Street Maintenance section is, in part, tasked with the maintenance and cleaning/sweeping of Tempe streets and various other MS4 components. In this capacity, the Streets program includes street sweeping and routine infrastructure inspections. To reduce the amount of debris entering the MS4, Tempe continues to implement an effective street sweeping program. Based upon historic sweeping activities, the following schedule provides significant debris removal at an operationally feasible frequency. (Adherence to this schedule varies occasionally due to unforeseen events that require staff and/or equipment reprioritization.)

- Arterial streets are swept once every two weeks.
- Residential, Collector, and Industrial streets are swept once every month.
- City-owned parking lots and large city facilities vary upon condition.
- Upon request (e.g., water main breaks, emergency road repairs, track out, special events, etc.)

The approximate number of linear miles, based upon above-described frequencies, and approximate amount of debris removed will be reported to ADEQ annually.

Streets Maintenance also conducts visual inspections of streets, catch basins, and other similar infrastructure. Streets has prioritized 100 miles of detailed visual inspections annually. All visual inspections and subsequent cleaning events are documented and reported to ADEQ annually.

In addition to the inspections and cleaning outlined above, two additional street programs are used to conduct cursory infrastructure inspections. Structures located on arterial roadways are inspected as part of the city's right-of-way weed control program and structures located on streets other than arterials are inspected as part of the city's street sweeping program. These inspections are not specifically documented unless further detailed component inspection or cleaning is deemed necessary.

7.5.4 CCTV

Tempe operates one sanitary sewer CCTV crew. As a component of the MS4 program, this crew is available to conduct underground infrastructure inspections for Streets, Parks, or Water Utilities work groups. When available, this crew also conducts MS4 CCTV inspections. As a component of the stormwater program, the CCTV crew will inspect at least 8,000 feet of underground MS4 conveyance annually. Inspection records will be reported to ADEQ annually.

7.5.5 Other

Tempe's Water Utilities Division, Utility Services Section, is responsible for the operation and maintenance of Tempe's water and wastewater infrastructure. On occasion, this section is also requested to perform unique stormwater-related cleaning or maintenance activities. Any MS4 cleaning or maintenance activity conducted by this section will be provided to ADEQ annually.

7.6 MS4 MAPPING

Upon completion or modification, Tempe will maintain maps of the MS4 system showing the following items (completed and/or recently modified maps can be found in Attachment H):

- Linear Drainage Structures: Line layer showing the location of all stormwater system pipes and the direction of stormwater flow.
- Storm Drain Inlets and Catch Basins: Point layer showing the locations of all storm drain inlets and catch basins.
- Outfalls: Point layer showing the location of all major outfalls (pipes or culverts); polygon layer showing the drainage area associated with each of the monitored outfalls identified in Table 1 of the Permit.
- Detention/Retention Basins: Point or polygon layer showing the locations of all identified city-owned retention and detention basins that are connected to the municipal stormwater conveyance system (i.e., that receive drainage from or discharge to a stormwater conveyance).
- Jurisdictional MS4 Boundary: Line or polygon layer showing the jurisdictional boundaries of the MS4, including any new land annexations during the Permit term.

8.0 INDUSTRIAL AND COMMERCIAL FACILITIES

8.1 MUNICIPAL EMPLOYEE TRAINING

Please see Section 11 for employee training information.

8.2 INVENTORY

Tempe has developed an inventory of all industrial and commercial facilities within the city that are subject to inspection under Tempe's MS4 Permit. This inventory was developed using the following Permit-required criteria:

- Industrial facilities identified in 40 CFR 122.26(d)(2)(iv)(C)
- Industrial facilities subject to MSGP requirements, including those facilities that have submitted a no exposure certification
- Other industrial and/or commercial sources (or categories of sources) Tempe determines are contributing a significant pollutant load to the MS4

The inventory for SARA Title III and MSGP Facilities was developed by acquiring information from the following sources:

- Arizona State Emergency Response Commission – (Tempe facilities subject to SARA Title III)
- InfoGroup, Government Division – ReferenceUSAGov Data Base [Tempe facilities subject to MSGP as identified in 40 CFR 122.26(b)(14)(i, ii, iv-ix, xi)]

An inventory of these facilities can be found in Attachment F.

Other sources used to identify industrial and/or commercial sources (or categories of sources) Tempe determines are contributing a substantial pollutant loading to the MS4 are:

- Utility Billing Records
- Building Permit Records
- Tax and License Records (name, address, NIACS code(s))
- Multi-media inspections conducted by Environmental Compliance Inspectors
- Industrial or commercial facilities subject to Tempe's Pretreatment Program

The inventory of SARA Title III and MSGP facilities is duplicative in some respects and is inclusive of facilities within Tempe that are subject to industrial pretreatment permitting requirements. In addition to the above-listed facilities, Tempe has added restaurants as a "category of sources" with a potential to impact the MS4.

The industrial commercial inventory is maintained electronically and is modified regularly by inspections staff based upon stormwater inspection information. The inventory is also reviewed annually for general conformance with Permit requirements.

Tempe continues to identify facilities that are subject to industrial pretreatment requirements as higher risk facilities due to the nature of such operations. For this reason, industrial pretreatment facilities are prioritized for annual stormwater inspections.

8.3 AZPDES NON-FILERS

Tempe's Permit requires the city to provide a potential non-filer notification for industrial and commercial activities that are believed by the city to be occurring without ADEQ's required Notice of Intent to Discharge (NOI) authorization for permit coverage under the Multi-Sector General Permit (MSGP), the Construction General Permit (CGP), or other general or individual NPDES Permit for stormwater discharges associated with industrial activity. During industrial and commercial inspections, Tempe inspectors compare inventory SIC codes with industrial/commercial activities and try to determine potential MSGP applicability. Note that Tempe does not inspect for compliance with MSGP authorizations or requirements. If a facility may be eligible for coverage under the MSGP, but Tempe does not have evidence that coverage or a NEC has been obtained, Tempe will flag this inspection and document facility information for reporting to ADEQ. At least every six months, Tempe will provide the following potential non-filer information to ADEQ:

- Business name and address
- Business SIC code
- Business contact number and name

8.4 PRIORITIZATION AND INSPECTION

8.4.1 Prioritization

Tempe will conduct a minimum of 120 industrial or commercial facility inspections annually. This number will include re-inspections of facilities as deemed necessary by the inspections group. All inspections will be documented and reported to ADEQ with the Annual Report. Inspections will be prioritized as outlined in Table 7.

Table 7: Industrial and Commercial Facility Ranking Criteria

Industrial and Commercial Stormwater Inspection Program Priorities	
Priority #1	
<ul style="list-style-type: none"> • Facilities subject to Tempe's Pretreatment Program • Facilities that may conduct activities that cause or contribute to SWQS exceedances • Public complaints 	
Priority #2	
<ul style="list-style-type: none"> • Industrial facilities that are subject to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) • Industrial facilities that are subject to ADEQ's MSGP 	
Priority#3	
<ul style="list-style-type: none"> • Other facilities deemed to be a potential source of pollutants to the MS4 (e.g., restaurants) 	

To allow for inspection flexibility and the need to address impending stormwater quality issues related to industrial or commercial discharges, inspections may not always be conducted as outlined in this prioritization schedule. Note that all facilities identified in the ranking criteria above are considered higher risk facilities.

8.4.2 Inspections

Tempe's inspection program is designed to identify and eliminate potential discharges of pollutants to Tempe's MS4, ensure compliance with the city's stormwater ordinance; and, consistent with Permit requirements, identify facilities that may be subject to ADEQ's industrial stormwater permit (MSGP). Procedures to accomplish this requirement are as follows:

- Inspectors will determine if the facility is conducting activities identified in 40 CFR 122.26(b)(14).
- If the facility is conducting such activities, inspectors will obtain the following information as appropriate:
 - NOI submittal date
 - NEC submittal date
 - NEC certification date
 - MSGP Authorization Number
 - Any relevant compliance information from ADEQ
- If the facility is not subject to these state regulations or has the appropriate coverage, non-filer notification will not apply, though inspection documentation will be retained.
- If the facility is subject to these state regulations and does not provide evidence of the necessary coverage or no exposure certification, the facility will be advised of these potential state requirements and the city will provide ADEQ with this information biannually.

Inspection procedures vary depending on the type of facility that is being inspected. Table 8 summarizes the general topics covered during priority inspections.

Table 8: General Inspection Information

Topic	Example of Information Collected	
Initial Information for all Inspections		
General Facility Information	<ul style="list-style-type: none">NameAddress	<ul style="list-style-type: none">Contact informationSIC Code
AZPDES or SARA Title III Information	<ul style="list-style-type: none">SARA activities or MSGP activities (yes/no)If yes, full stormwater inspection triggered and MSGP information gathered.	
Stormwater Discharge Location	<ul style="list-style-type: none">Waters of the U.S.MS4Retention	<ul style="list-style-type: none">DetentionDrywellOther
Discharge to MS4	<ul style="list-style-type: none">Signs of any discharge to the MS4 (yes/no)Signs of non-stormwater discharges (yes/no)If yes, full stormwater inspection triggered.	
If Stormwater Inspection is Triggered		
Chemical Storage	<ul style="list-style-type: none">Types of chemicalHaz WasteQuantityLocation	<ul style="list-style-type: none">ContainmentPotential for dischargeExposure
Housekeeping	<ul style="list-style-type: none">Refuse containersCleanlinessLeakageStorage TanksContainment,Maintenance	<ul style="list-style-type: none">Storm Drainage infrastructureParkingExternal cleaning/washing
Other Activities	<ul style="list-style-type: none">Other activities that could contribute to the discharge of pollutants	
Sampling/Photo Documentation	<ul style="list-style-type: none">Analytical sample collection (if needed)Photo documentation (if needed)	
Further Action	<ul style="list-style-type: none">Follow-up neededEducations (BMPs)	<ul style="list-style-type: none">Enforcement ActionOther
Comments	<ul style="list-style-type: none">Any other relevant information	

Random, multi-media inspections (non-priority) are not considered high risk facility inspections and may not necessitate such detailed information. Such inspections do contain trigger information that could initiate further investigation. Inspection triggers are identified in Table 8.

8.4.3 Documentation, Review, and Reporting

Once inspections are completed, inspection forms are provided to Tempe's Environmental Compliance Supervisor for review. After this review, all forms are scanned, entered into Tempe's document tracking system, and separately provided to an Environmental Quality Specialist for MS4 Permit tracking and reporting.

8.4.4 Compliance Activities and Enforcement

Please see Sections 3.3.2 and 6.6.

9.0 CONSTRUCTION SITES

9.1 MUNICIPAL EMPLOYEE TRAINING

Please see Section 11 for employee training information.

9.2 PLANNING AND LAND DEVELOPMENT

Tempe's General Plan 2030 provides the framework for development that, in part, looks to the future to improve the quality of life for all those who live, learn, work and play within the city's boundaries. During the term of this Permit the General Plan will undergo review and update and will provide the opportunity to better define the concept and direction of sustainable stormwater management within the City of Tempe.

Through this process, and as required by Tempe's Permit, the city will evaluate sustainable stormwater management practices, in the form of LID, its applicability, and other factors that could contribute to the reduction of pollutants in stormwater discharges from new construction, significant redevelopment, and retrofits of commercial and residential areas.

As part of this evaluation, Tempe will convene a team of representatives from applicable Community Development, Engineering and Environmental Services sections. This team will focus on the General Plan stormwater strategies, review of existing practices, and explore the possibility for policy or procedural modifications.

Examples of current sustainable stormwater management practices are as follows:

Not precluding and allowances for:

- Use of pervious pavers in parking areas
- Use of decomposed granite (stabilized) in lieu of concrete for walking paths
- Capture and infiltration of the 100-year storm flow on the development site, and in some locations include the ½ street in front of the site.
- Landscape islands are not required to be curbed, especially where draining into storm drainage retention.

Requirements for:

- Inclusion of oil/water separator before water enters retention ponds
- Low Water Use/ drought tolerant planting
- On-site retention

No later than September 2014, Tempe will report findings of how the implementation of sustainable stormwater management practices could contribute to the reduction of pollutants in stormwater

discharges to the MS4 and if applicable, identify a plan and schedule for incorporation into city policies or procedures.

9.3 PLAN REVIEW AND APPROVAL

Tempe's stormwater construction program is managed by the Public Works Engineering Division and encompasses plan review, inventory, prioritization, inspection, and enforcement of private and Capital Improvement Project (CIP) construction projects that will result in a land disturbance of one (1) acre or more, and those that disturb less than one (1) acre but are part of a larger common plan of development.

For construction projects that will result in a land disturbance of one (1) acre or more, and those that disturb less than one (1) acre but are part of a larger common plan of development, the City of Tempe will:

- Review plans for all new development and significant redevelopment projects (such as grading and drainage plans). The review will verify conformance with Tempe's requirements for stormwater, erosion, and sediment control, and land use decisions prior to issuing construction approvals or authorization.
- Require a copy of the ADEQ authorization document, Notice of Intent (NOI Certificate), for construction projects to be submitted prior to issuing final construction approval or authorization.

9.4 INVENTORY

Tempe's Public Works Department, Engineering Division prints an inventory of construction projects that will result in a land disturbance of one (1) acre or more, and those that disturb less than one (1) acre but are part of a larger common plan of development, every three (3) months. The inventory is extracted from Tempe's permit database, which is continuously updated with new projects when any project is issued a grading and drainage permit. The City of Tempe requires proof of ADEQ's AZPDES Notice of Intent to Discharge (NOI) Authorization from the Project's owner/developer prior to issuance of a grading and drainage permit.

Municipal construction projects will be inventoried and tracked using a spreadsheet that is routinely maintained and updated. A copy of the inventory will be reported in each Annual Report. Municipal projects will be removed from the inventory list when construction is complete and the Construction Notice of Termination (NOT) is filed with ADEQ.

9.5 PRIORITIZATION

The Engineering Division of the Public Works Department inspects construction projects that are granted a permit at least once during construction or once per year. The inventory list of qualifying non-municipal construction sites will be reviewed on a quarterly basis with the inspection staff and the sites that have a higher potential to discharge to the storm sewer system will be identified. Frequency of inspection for these sites will be discussed and established during the quarterly review of the inventory.

Inspection records are maintained in the project development file and are scanned and stored electronically in Tempe's document filing system.

The inventory list of municipal construction sites will be prioritized using a predetermined rating system.

9.6 INSPECTION

At a minimum, the following items are addressed during construction site inspections:

- For projects of one acre or more, verify that the Storm Water Pollution Protection Plan (SWPPP), the AZPDES Notice of Intent (NOI) Authorization and City of Tempe permits are on-site.
- Confirm compliance with the city's stormwater ordinance.

After notification from the developer that work is to begin, a pre-construction meeting is scheduled. It is verified by inspection staff, via computer, that the developer has obtained grading and drainage permits prior to holding the pre-construction meeting. At the meeting, the developer is notified of drainage requirements, and that the SWPPP must be available at the construction site. A construction entrance location and placement of Best Management Practice devices (BMPs) are verified prior to the start of grading activities. Once installed, grading and drainage inspections can occur as part of any inspection by Engineering Division staff at the site. The BMP's generally include, but are not limited to:

- Track out measures
- Tire wash racks
- Silt fencing
- Straw bales
- Straw wattles

BMPs are to be installed and maintained in place during the construction period. During periods of rain, inspections may be specifically conducted for purposes of observing drainage at project sites. Other observations of BMPs are incidental to other inspections occurring at the construction site at the same time.

Municipal construction sites will be inspected at least one time per calendar year to confirm that effective erosion and sediment controls are in place and verify conformance with Tempe's stormwater requirements and approved construction plans.

9.7 COMPLIANCE ACTIVITIES/ENFORCEMENT

If determined during a routine inspection, or an inspection in response to a complaint, that a site/project is non-compliant with the city's stormwater ordinance or with any conditions of City of Tempe permits, the Engineering Division begins enforcement procedures. Upon observing a deficiency of any installed BMP, inspection staff will follow a procedure of progressive actions to assure compliance by the developer. The actions are as follows:

1. The inspector will verbally notify the superintendent of the job (owner's representative) of the observed deficiency and ask for corrective action, usually by the end of the day.
2. The inspector will issue a written notification (correction notice) stating that the verbal notification was not acted on and issuing a specific schedule for the completion of the corrective action.
3. A 2nd written notice is issued stating that all inspections by Engineering Division staff will cease on the project until corrections are completed and requiring a meeting between the project owner and the inspector's supervisor to discuss the breakdown in communication before inspections may resume.
4. All inspections are held on the project – no forward progress can be approved.

If deficiencies cause an illicit discharge into the MS4, the city's Environmental Services Section will be notified at which point enforcement pursuant to the city's stormwater ordinance may be initiated.

9.8 OTHER CONTROL PRACTICES

Listed below is a variety of practices, structural and non-structural, that the city may employ or recommend in order to control pollutants from construction sites.

Erosion Control:

- Existing vegetation preservation
- Rip Rap/Rock
- Erosion control blankets, geotextiles, etc.
- Permanent landscaping
- Diversion Channel/berms
- Soil binders, hydraulic mulch, etc.
- Hydro seeding

Sediment Control BMPs:

- Slope Protection (fiber rolls, slope drains)
- Sediment Capture (traps, basins, netting)
- Storm sewer inlet protection (fiber rolls, wattles, drain covers)
- Stabilized entrance/Track-out mitigation
- Velocity reduction (check dams, detention, swales, etc.)
- Perimeter protection (silt fence, berm, dikes/dams, etc.)

Materials Management BMPs:

- Spill prevention & control
- Fuel/chemicals storage
- Waste collection/litter control

- Stockpile management
- Concrete wash-out

10.0 POST-CONSTRUCTION

10.1 MUNICIPAL EMPLOYEE TRAINING

Please see Section 11 for employee training information.

10.2 REVIEW OF MASTER PLAN

Consistent with Permit requirements, Tempe will conduct an evaluation of Tempe's existing Stormwater Master Plan by January 3, 2013, and provide findings of this evaluation to ADEQ by September 30, 2014. The evaluation will focus on the reduction of pollutant discharges in stormwater and an assessment of the adequateness and effectiveness of existing control measures. Findings will include recommendations, as necessary, to improve the plan and a schedule for implementing enhancements.

10.3 POST-CONSTRUCTION CONTROLS

Tempe's most effective post-construction control remains on-site retention as implemented by Tempe's Stormwater Retention Ordinance - Chapter 12, Article IV, of the Tempe City Code. This ordinance is an effective control measure by providing containment for much of the rainfall in Tempe, and accordingly limiting discharges of pollutants to waters of the United States. Tempe's Stormwater Retention Ordinance has been in effect since 1967 and was modified in April 2004 to accommodate more dense development in and around downtown Tempe, an area designated as the Alternative Retention Criteria Area (ARCA). Outside the ARCA, all new development or substantial improvements to existing developments must provide storage of sufficient volume (on-site retention) to hold the runoff from the 100-year design storm. Inside the ARCA, new development or substantial improvements to existing developments must provide on-site retention for the two-year design storm. The two-year requirement may be waived within the ARCA subject to approval by the City of Tempe Public Works Director if equivalent best management practices for on-site pollutant removal are implemented.

Tempe will continue to implement the requirement for new facilities to install and maintain on-site retention for a 100-year, 2-hour storm event in all areas of Tempe, except Alternative Retention Criteria Areas (ARCA), areas exempted by law, or areas excluded under the technical appeals process. When possible, the city will require such exempt facilities to install stormwater control measures.

10.4 IMPLEMENTATION AND INSPECTIONS

A post-construction inspection is conducted on 100% of all permitted residential and commercial projects that will result in a land disturbance of one (1) acre or more, and those that disturb less than one (1) acre but are part of a larger common plan of development. This post-construction inspection is a part of the warranty period inspection and will generally occur within a year after completion of construction. The inspection provides an opportunity to identify corrective action to be implemented by the developer or responsible contractor for a variety of items, including stormwater and/or drainage controls.

Post-construction controls also apply to city-owned parcels. The following is a list of those most frequently used stormwater control features. Stormwater controls can utilize one feature or a combination of several features. These control features will be examined during post-construction site inspections for which an NOI is required.

- Surface retention basin
- Underground stormwater retention
- Storm Drain Pipe
- Catch Basin or Scupper
- Drywell, with or without an Interceptor Chamber
- Oil Stop Structure
- Rip rap

Tempe will not issue a grading permit, building permit, or a certificate of occupancy to an owner/developer until notification from the City Engineer is received indicating that a drainage plan and on-site grading and drainage improvements are in compliance with Chapter 12, Article IV, of the Tempe City Code. In addition, the City Engineer will not issue this notification unless a project provides the required retention or unless the project is in the ARCA and the Public Works Deputy Director has approved alternative on-site pollutant removal BMPs. Sections 12-71 and 12-73 of Tempe's on-site retention ordinances contain the administrative requirements that ensure implementation of this program.

10.5 COMPLIANCE ACTIVITIES/ENFORCEMENT

If determined during warranty inspection that a site/project is non-compliant with the city's stormwater ordinance, the Engineering Division begins enforcement procedures. Upon observing a deficiency of any installed retention areas, inspection staff will follow a procedure of progressive actions to assure compliance by the owner/ developer. The actions are as follows:

1. The inspector will issue a written notification (correction notice) for the completion of the corrective action.
2. If corrective action is not effective, the owner/ developer will be notified in writing by the City Engineer. The notice, which will be sent by certified mail, will state specifically the nature of the violation and request that it be corrected. If a violation is not corrected within thirty (30) days after notice, the City Engineer will hand over all pertinent facts to the City Attorney with a request for prosecution under the provisions of this article.

If deficiencies have potential to cause an illicit discharge into the MS4, the city's Environmental Services Section will be notified, at which point enforcement pursuant to the city's stormwater ordinance may be initiated.

11.0 STORMWATER TRAINING PROGRAM

Tempe has developed a comprehensive stormwater training program to address Permit requirements. This training is divided into four distinct categories and is designed to disseminate applicable stormwater information to Tempe employees that hold varying stormwater program responsibilities.

The categories of training are as follows:

- General Permit Training
- Environmental Compliance Inspector Training
- Municipal Facility Training
- Construction/Post-Construction Training

Most training is tracked in Tempe's electronic training tracking system and individual events are summarized in Tempe's Annual Report.

11.1 GENERAL PERMIT TRAINING

While not specifically required by Permit, Tempe has developed training designed for senior level management. Tempe's success in implementing the stormwater program is contingent on support from city management. In an effort to ensure continued support for and understanding of the program, Tempe uses various management forums to disseminate stormwater education. Topics discussed during these events include, but are not limited to, topics outlined in Table 9.

Table 9: General Permit Training

Topics	
General Permit Conditions	Legal Requirements
Organizational Requirements	Resource Allocation
Compliance Status	Program Development
Program Needs	Annual Reporting Summary

These training events occur on an as needed basis and are tracked separately from other municipal training events.

11.2 ENVIRONMENTAL COMPLIANCE INSPECTOR TRAINING

Tempe Environmental Compliance Inspectors are directly involved with, and hold direct responsibilities pertaining to, many aspects of the stormwater program. Tempe provides new inspectors training within the first year of employment and provides refresher training for existing inspectors at least once every two (2) years. This training may be conducted internally or by an external vendor. Training for all inspectors includes, but is not limited to, topics outlined in Table 10.

Table 10: Environmental Compliance Inspector Training

Topics	
Legal requirements	Industrial/Commercial Inspections
IDDE	Outfall Inspections
Call-out procedures	Investigations
Field Screening	Non-stormwater discharges
Municipal Facility requirements	Investigations
Enforcement	

These training events are tracked in Tempe's electronic training tracking system and individual events are summarized in Tempe's Annual Report.

11.3 MUNICIPAL FACILITY TRAINING

Various Tempe employees with and with no direct stormwater responsibilities receive routine stormwater training. Tempe has developed a training program designed to reach selected groups of employees that could provide benefit as a result of this training. These groups include, but are not limited to, most field staff employees. Training is provided to employees in the following city sections:

- Water Utilities Services
- Parks Maintenance
- Streets Maintenance
- Solid Waste

Tempe provides this training internally within the first year of employment and provides refresher training for existing employees at least once every two (2) years. These training events include, but are not limited to, topics outlined in Table 11.

Table 11: Municipal Facility Training

Topics	
Tempe City Code	Pollution Prevention
Spill Management	Chemical handling and storage
Used oil and other hazardous materials	Identifying and reporting illicit discharges
Identifying and reporting non-stormwater discharges	General field practices
General Awareness	

These training events are tracked in Tempe’s electronic training tracking system and individual events are summarized in Tempe’s Annual Report.

11.4 CONSTRUCTION/POST-CONSTRUCTION TRAINING

Tempe’s Engineering Division provides stormwater training to staff with stormwater responsibilities. Applicable staff is provided training within the first year of employment and refresher training for existing inspectors at least once every two (2) years. CIP and private development sections are both trained on similar topics, which include topics outlined in Table 12.

Table 12: Construction/Post Construction Training

Topics	
Erosion and Sediment Controls	Maintenance Requirements for BMPs
Municipal Ordinances Related to Stormwater and Construction	Plan Review Procedures
Grading and Drainage Design Standards	Requirements for Structural and Non-structural BMPs on Construction Sites
Inspection Procedures	Enforcement Procedures
Post-construction Stormwater Controls	Post-construction Inspection Procedures

These training events are tracked in Tempe’s electronic training tracking system, and individual events are summarized in Tempe’s Annual Report.

12.0 WET WEATHER MONITORING PROGRAM

12.1 OVERVIEW OF THE PROGRAM FOR WATER QUALITY MONITORING

Tempe conducts monitoring at five (5) major outfall locations as a component of the wet weather monitoring program. Fact sheets for each monitoring location can be found in Attachment G.

Tempe conducts monitoring at these locations to obtain analytical data used in part for the following purposes:

- assist with stormwater quality characterization and identify stormwater pollutants
- provide information that may be used to detect and eliminate illicit discharges
- provide elements used in the evaluation of the general effectiveness of specific control measures and the SWMP as a whole in reducing the discharge of pollutants
- estimate pollutant loads to waters of the U.S.

12.2 REPRESENTATIVE STORM EVENT

Tempe conducts wet weather monitoring for storm events of 0.1 inches (or greater) that results in an actual discharge from the monitoring locations. Since a certain level of flow is required for adequate sample collection, flow triggers for each sampling event may vary based upon sampling equipment capabilities. Discrete sampling events for each location will not be less than 72 hours since the last storm event discharge.

Each season, Tempe will record measurable storm events occurring at each sampling station until all samples required to be collected during the season are obtained from the outfall. Tempe will report this storm event data in the Annual Report and include the following information:

- Date of each storm event.
- Amount of rainfall (in inches) in the drainage area for each stormwater monitoring location.
- For those storm events producing 0.10 inches of rainfall or greater, indication of whether or not a stormwater sample was collected, and if not, a brief explanation on the conditions that prevented or did not require sampling (i.e., insufficient flow, seasons sample had already been collected, etc.).

Sampling of a representative event is not required during adverse climatic conditions. Adverse climatic conditions which prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, electrical storms, etc.). Information on the conditions that prevented sampling will be reported to ADEQ in the Annual Report. Tempe will continue to monitor subsequent storm events during the monitoring season and perform stormwater sampling of a representative storm event if another occurs during the same wet season.

12.3 SEASONAL SAMPLING

Tempe will sample stormwater discharging from the Tempe MS4 throughout the Permit term and will commence on the first measurable storm event of each wet season identified below and will continue each subsequent wet season as necessary. Any needed make-up sampling will occur during subsequent summer and winter wet seasons if greater than one measurable storm event occurs during those seasons.

Wet seasons, for the purposes of monitoring, are defined as follows:

Summer wet season:	June 1 – October 31
Winter wet season:	November 1 – May 31

Stormwater samples will be collected at least once per season per sampling station consistent with the parameter list identified in the Permit. Sampling will be conducted over the first three (3) hours of the discharge or for the entire discharge period if less than three (3) hours. The samples will include stormwater from the “first flush” (first 30 minutes of the stormwater event) whenever possible to do so.

12.4 WATER QUALITY ASSESSMENTS

As required by Permit, Tempe will compare stormwater quality monitoring data, as measured from the monitoring locations, to the Surface Water Quality Standards (SWQSs) applicable to the waters of the U.S. receiving the discharge. In the event that a pollutant concentration greater than the applicable SWQS is detected, Tempe will continue to perform monitoring of stormwater discharges as required by the Permit.

If monitoring data shows a recurring (more than once) value greater than the applicable SWQS, Tempe will investigate and make all reasonable efforts to identify potential source(s) of the pollutant(s). Where feasible, Tempe will evaluate the effectiveness of existing control measures on the pollutant(s) of concern and modify existing control measures or implement additional control measures, as necessary, to reduce the discharge of pollutants to the MEP.

Any occurrence of monitoring data exceeding a SWQS will be reported to ADEQ as required by the Permit.

12.5 ASSESSMENT OF POLLUTANT LOADING

Beginning the 2011-2012 reporting year, Tempe will estimate the pollutant loadings each year from all identified municipal outfalls to waters of the U.S. for BOD, COD, TSS, total dissolved solids, total nitrogen, total ammonia plus total organic nitrogen (TKN), total phosphorous, and metals. An event mean concentration of each pollutant shall be estimated using representative storm event data for each year. The city will estimate the annual (total) pollutant loadings from the MS4 to waters of the U.S. each year.

Pollutant loadings and event mean concentrations will be calculated from sampling and analytical data collected at the representative monitoring locations and shall take into consideration land uses and drainage areas for the respective outfall. The pollutant loadings estimated each year shall be compared to previous estimates of pollutant loadings throughout the Permit term.

Loading data will be calculated using concentration data generated by lab analysis and flow data recorded specific to each event and be reported in units of kilograms (kg) per event. Estimates of pollutant loadings and event mean concentrations will be included in the annual report and shall be accompanied by a description of the procedures for estimating pollutant loads and concentrations, all raw data analysis, and the appropriate calculation methods.

13.0 FINANCIAL RESOURCES

Tempe's stormwater program expenditures are supported by funding from Tempe's CIP Fund and various Public Works Department funds.

The following factors will be considered when developing the annual fiscal analysis:

- Some public involvement and participation programs are not exclusively related to the stormwater program. Accordingly, stormwater expenditures in these areas are either estimated to be one half of total operational budget or time and material specific to stormwater activities.
- Most of the operational street sweeping activities are funded as a stormwater program component and will be reflected as such.
- Costs for employee attendance at training events will not be incorporated as stormwater expenditures, though cost to develop and conduct training is considered. External training will be fully accounted for.

On an annual basis, all Tempe sections that implement stormwater programs are required to provide a summary of annual expenditures and funding source. This information will be provided to ADEQ in summary format annually.

Tempe will continue to streamline various city processes and increase operational efficiencies to ensure that all stormwater regulatory mandates are met in an economically responsible manner.

14.0 PROGRAM EVALUATION AND MODIFICATION

14.1 PROGRAM EVALUATION

In an effort to ensure consistent, effective and efficient implementation, Tempe regularly evaluates the status of SWMP programs. These evaluations occur as a result of:

- routine dialogue with city sections charged with program implementation
- review of routine internal status reporting
- ongoing development of new or modified program elements
- implementation of practices designed to meet Permit measurable goals
- training feedback
- annual report preparation
- annual SWMP review

As a product of these ongoing evaluations, Tempe continues to improve program effectiveness, which ultimately promotes the reduction of pollutants in stormwater.

14.2 PROGRAM MODIFICATION

This SWMP has been designed to allow for as much program flexibility as possible; however, the Permit requires ADEQ approval for many plan modifications or revisions. In the event program evaluations require plan modifications or revisions, Tempe will comply with Permit notification and approval requirements.



Arizona Department of Environmental Quality
Water Division
1110 W. Washington St.
Phoenix, AZ 85007

**MUNICIPAL SEPARATE STORM
SEWER SYSTEM (MS4)
COMPLIANCE AUDIT**

CITY OF TEMPE

AUDIT REPORT

Audit Date:
March 7–8, 2012

Report Date:
May 7, 2012

EXECUTIVE SUMMARY

On March 7-8, 2012, the Arizona Department of Environmental Quality (ADEQ) contractor, PG Environmental, LLC (hereinafter, PG), conducted an audit of the City of Tempe Municipal Separate Storm Sewer System (MS4) Program with assistance from ADEQ staff (hereinafter, collectively, the Audit Team).

This audit report identifies potential non-compliance, program deficiencies, and positive attributes and is not a formal finding of non-compliance. Program deficiencies are areas of concern for successful program implementation. Positive attributes indicate overall progress in implementing the Program.

Several elements of the City's program were particularly notable:

1. The City had an overall effective stormwater program and demonstrated strong leadership from top management.
2. Multiple Departments at the City were delegated responsibilities for implementing the stormwater program and these departments appeared to embrace their responsibilities.
3. The City used diversified routes and mechanisms for distributing educational materials and conducting outreach, including social media and collaborating with other entities.
4. The City had an established industrial pretreatment program providing a fundamental element and good foundation for a successful stormwater program.
5. The City had developed an effective illicit discharge detection and elimination (IDDE) inspection program with seven multi-program inspectors who conducted inspections in assigned areas of the City. The staff interviewed during the audit appeared knowledgeable and motivated to prohibit, remove, and respond to illicit connections and discharges in the City.
6. The City had established an effective response process and standard operating procedures for responding to reports of potential illegal discharges to the MS4.
7. The City's Household Products Collection Center was effectively managing household hazardous waste (HHW) to ensure proper handling and disposal and further prevent stormwater pollution.
8. The City had established a food industry inspection program to ensure proper management of fat, oil, and grease (FOG) by restaurants.
9. The City's Engineering Department was actively involved in plan review and stormwater pollution prevention plan (SWPPP) adequacy for Capital Improvement Program (CIP) projects.
10. The City demonstrated effective use of BMPs for erosion and sediment control on a CIP project visited by the Audit Team.
11. The City's requirement of on-site retention for a 100-year storm event is an effective approach for stormwater pollution prevention.

The following potential non-compliance and program deficiencies are considered the most significant and are further discussed within the report:

1. The City had not identified appropriate triggers for dry weather screening as part of the IDDE program.
2. The City had not fully developed ranking criteria for municipal owned facilities based on the potential to cause a substantial pollutant load.
3. Improper pollution prevention practices were noted during site visits at municipal facilities.
4. Inadequate and inappropriate use of BMPs to effectively control potential stormwater pollutants was observed at private construction projects.

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1.0 INTRODUCTION

On March 7-8, 2012, the Arizona Department of Environmental Quality (ADEQ) contractor, PG Environmental, LLC, (hereinafter, PG) conducted an audit of the City of Tempe Municipal Separate Storm Sewer System (MS4) Program with assistance from ADEQ staff (hereinafter, collectively, the Audit Team).

1.1 Permit and Stormwater Management Plan

Discharges from the City of Tempe (hereafter, the City or Permittee) MS4 are regulated under the provisions of the Arizona Pollutant Discharge Elimination System program (Arizona Revised Statutes, Title 49, Chapter 2, Article 3.1 and Arizona Administrative Code, Title 18, Chapter 9, Articles 9 and amendments thereto), Permit No. AZS00005-2010, *Arizona Pollutant Discharge Elimination System Authorization to Discharge Stormwater from a Municipal Separate Storm Sewer System (MS4s) to Waters of the United States*, (hereinafter, the Permit), issued January 3, 2011. Permit modifications became effective on June 3, 2011, and the Permit is set to expire on January 2, 2016.

The Permit authorizes the City to discharge stormwater runoff and certain non-stormwater discharges from its Medium MS4 to waters of the United States, under the Permit terms and conditions. Section 5 of the Permit requires the City to continue to implement and maintain a Stormwater Management Program designed to reduce to the maximum extent practicable (MEP) pollutant discharges to and from the MS4 that is owned or operated by the City.

Pursuant to this requirement, the City completed a Stormwater Management Plan (SWMP), dated January 2012. As indicated in the Introduction (Section 2.0) of the City's SWMP, the current SWMP includes previously proposed management plans and outlines the major programs and policies developed and implemented by the City to comply with the Permit. The City was in Permit Year two at the time of the audit.

1.2 Purpose of Audit

The purpose of the audit was to obtain information that will assist ADEQ in assessing the City's compliance with the requirements of the Permit and associated SWMP, as well as the implementation status of the City's SWMP. The audit schedule is presented as Appendix A. The Exhibit Log and Photograph Log are provided as Appendices B and C, respectively. Copies of the Permit, SWMP, and 2010–2011 Annual Report (Permit Year 1) are included as Appendices D, E, and F, respectively.

1.3 Program Areas Evaluated

The audit included an evaluation of the Permittee's compliance with the following Program Activities included in the Permit:

- 1 Public Education and Outreach
- 2 Public Involvement
- 3 Illicit Discharge Detection and Elimination
- 4 Municipal Facility Pollution Prevention, Good Housekeeping Practices and Activities
- 5 Industrial and Commercial Facilities
- 6 Construction Sites
- 7 Post-Construction

No potential non-compliance or deficiencies were noted for Program Activities 1, 2, 5, and 7 during the audit, therefore, no further discussion of these programs is included in this report. Observations regarding the City's implementation of Program Activities 3, 4, and 6 have been included in this report in sections 2.1, 2.2, and 2.3 respectively.

1.4 Audit Process

The Audit Team obtained its information through a series of interviews with representatives from the City's Public Works Department, along with a series of site visits, record reviews, and field verification activities. It should be noted that this audit report does not attempt to comprehensively describe all aspects of the City's SWMP, fully document all lines of questioning conducted during personnel interviews, or document all in-field verification activities conducted during site visits.

Representatives from the City of Tempe, ADEQ, and PG attended the opening meeting held at the Public Works Department. A sign in sheet from that meeting is presented in Appendix B, Exhibit 1. The primary representatives involved in the audit were the following:

City of Tempe MS4 Audit: March 7–8, 2012	
Public Works	David E. McNeil, Environmental Services Manager Jeremy Mikus, Environmental Program Supervisor Michael Golden, Environmental Compliance Supervisor Eric W. Staedicke, Environmental Quality Specialist Tamara Bednarik, Environmental Quality Specialist Isaac A. Chavira, Transportation Maintenance Manager David Tavares, Environmental Health and Safety Manager
Arizona Department of Environmental Quality	Kailash Bhatt, Manager, Water Quality Industrial Field Services Unit, Phoenix Office Sherri L. Zendri, Regional Compliance Manager, Southern Regional Office John E. Eyre, P.E., Environmental Engineer/Compliance Officer
ADEQ Contractors	Wes Ganter, PG Environmental, LLC Marleina Overton, PG Environmental, LLC

2.0 PROGRAM EVALUATION RESULTS

This audit report identifies potential non-compliance, program deficiencies, and positive attributes and is not a formal finding of violation. Program deficiencies are areas of concern for successful program implementation. Positive attributes indicate a permittee's overall progress in implementing the SWMP. The Audit Team documented only positive attributes that were innovative (beyond minimum requirements). Some areas were identified to be simply adequate; that is, neither particularly deficient nor innovative.

A request for records was submitted to the City prior to the audit on February 23, 2012 (see Appendix B, Exhibit 2). During the audit, the Audit Team obtained documentation and other supporting evidence regarding compliance with the Permit and associated SWMP. The SWMP contains citations to the Permit, BMP requirements, objectives, implementation timetable, and measurable goals. Referenced documentation used as supporting evidence is provided in Appendix B, and photo documentation is provided in Appendix C.

2.1 Illicit Discharge Detection and Elimination

Appendix A, Part III, Illicit Discharge Detection and Elimination (IDDE) of the Permit requires the City to detail the components of the IDDE program in the SWMP and includes specific requirements to achieve the measurable goals listed in Sections A-G. Observations regarding this program area were made during the audit and are included in this section.

During the audit, the Audit Team was given the opportunity to meet with one of the seven City inspectors whose responsibilities included identifying and eliminating illicit discharges and connections to the MS4. It was apparent that the inspector was knowledgeable and had a good understanding of the responsibilities related to the IDDE program.

Positive Attribute:

2.1.1 The City had effectively leveraged its existing industrial pretreatment program to aid in the development and implementation of the MS4 Program. The City's established industrial pretreatment program was providing a good foundation for a successful stormwater management. Specific attributes included the use of the Enforcement Response Plan, a willingness to enforce local ordinance, and inspection and monitoring procedures. Additionally, the City used seven multi-program inspectors to conduct IDDE inspections in assigned areas of the City. These inspectors performed scheduled and unannounced inspections and conducted drive-bys within their service areas. The inspection staff interviewed during the audit appeared knowledgeable and motivated to prohibit, remove, and respond to illicit connections and discharges in the City. Last, the City had established an effective response process and standard operating procedures for responding to reports of potential illegal discharges to the MS4.

Deficiency Noted:

2.1.2 The City had not identified appropriate triggers for dry weather screening as part of the IDDE program. As stated in Appendix A, Part III, Section E of the Permit, "the City shall develop criteria by which to determine whether dry weather flows contain illicit connections or discharges and shall implement a program to effectively make such determinations." Section 6.3.3 of the City's SWMP discussed standard field screening procedures for outfall inspections or field screening points and identified analytical triggers used during dry weather conditions as required by the Permit.

The City identified triggers in Table 4 on page 6-4 of the SWMP (see Appendix E); however, several of the triggers listed in Table 4 did not align with the inspection form used by City staff in the field to conduct dry weather screening of outfalls or other field screening points (see Appendix B, Exhibit 3). For example, odor is listed as a parameter in Table 4, with a method of detection listed as "visual", and the triggers listed in the table were "chemical, gas, or sulfur", but the IDDE inspection form lists "none, musty, sewage, rotten egg, sour milk, and other" under the visual observation for odor. Another parameter listed in Table 4 was color and the trigger was "off-color", but the IDDE form used by inspectors lists "clear, red, yellow, green, brown, or other." Some of the triggers themselves may not be entirely appropriate for identifying the presence of illicit discharges. For example, the presence of an odor may be indicative of an illicit connection; however, odor may not be a good indicator parameter for identifying non-visible pollutants commonly associated with illicit discharges.

The field screening and trigger identification process should be evaluated and clarified. The City should consider assessing the triggers identified in Table 4 of the SWMP and the triggers used by inspectors to ensure accurate identification of illicit discharges and connections.

2.2 Municipal Facility Pollution Prevention, Good Housekeeping Practices and Activities

The Permit requires the City to implement the provisions of Appendix A, Part IV, Municipal Facilities Pollution Prevention and Good Housekeeping Practices including detailing the components of the program in the SWMP and achieving measurable goals listed in Appendix A, Part IV, Sections A-E.

The Audit Team conducted site visits at six municipal facilities on March 7-8, 2012. A review of the ranking criteria for municipal facilities and observations regarding pollution prevention and good housekeeping practices made at each facility during the audit are included in this section.

Deficiencies Noted:

2.2.1 The City had not fully developed ranking criteria for municipal owned facilities based on the potential to cause a substantial pollutant load. As stated in Appendix A, Part IV, Section B.2 of the Permit “Tempe shall review the potential pollutants and other factors of risk at such facilities [types of facilities identified in Appendix A, Part IV, Section B.1] and prioritize them for an on-site review to determine if they have a potential to cause a substantial pollutant load (i.e. identify ‘higher risk’ facilities).” Furthermore, Appendix A, Part IV, Section B.2 of the Permit states, “Factors that will be considered for purposes of prioritization include: 1) Quantity and location of materials used and/or stored at the facility; 2) Potential for exposure to stormwater; and 3) Potential to discharge a substantial pollutant load to the MS4 or to waters of the U.S.” Section 7.2 of the City’s SWMP describes the Municipal Facility Stormwater Inspection Program and includes discussions on the inventory, prioritization, and process for implementing the inspection program.

The City had inventoried municipal sites and had developed ranking criteria for municipal facilities. Table 6 of the SWMP prioritizes municipal facilities assigning numbers 1, 2, or 3, with Priority 1 having the highest potential to discharge a substantial pollutant load to the MS4 or waters of the U.S. and a high potential for spills, Priority 2 facilities having less potential to discharge and low potential for spills, and Priority 3 facilities having minimal or no potential to discharge. The table indicates that facilities ranked as Priority 1 would be inspected biennially, Priority 2 would be inspected every three years, and Priority 3 would be inspected every five years. The municipal facility list and ranking was provided to the Audit Team during the audit (see Appendix B, Exhibit 4) and was used by the Audit Team to determine which facilities would be visited during the Audit. After reviewing the ranking criteria provided in Section 7 of the SWMP, it was evident that the focus of the ranking criteria was on hazardous material use and accumulation and did not consistently consider the potential for other pollutant loads such as sediment or runoff from discarded equipment, materials and poor housekeeping.

The City should assess the risk factors at sites and re-evaluate facilities based on the types of activities and materials (i.e. aggregate stockpiles) being stored and potential for exposure to stormwater. It should be noted that at the time of the audit, the City was in the process of conducting inspections of its facilities to identify potential threats to stormwater quality and required remedies.

2.2.2 Concerns pertaining to improper pollution prevention practices were noted during site visits at municipal facilities conducted as a component of the audit. As stated in Appendix A, Part IV, Section C.2 of the Permit “Tempe shall inspect each ‘higher risk’ municipal facility (see IV.B(2)) [reference to section in Appendix A of Permit] and shall also recommend repair or maintenance of control measures as necessary, or other pollution prevention activities with the goal of improving the quality of stormwater discharged from the site.”

On March 7–8, 2012, the Audit Team conducted site visits at six municipally owned facilities. The purposes of the site visits were to document site conditions and to assess the City’s oversight activities for municipal operations and maintenance. The Audit Team visited Hardy Transportation Yard, Priest Maintenance Yard, Household Products Collection Center, Kiwanis Park Maintenance Facility, Ken

McDonald Golf Course Maintenance Facility, and the Rolling Hills Golf Course Maintenance Facility. The Audit Team referenced the SWMP, 2010-2011 Annual Report, and the *City of Tempe's Facility Chemical Handling and Spill Procedures* (see Appendix B, Exhibit 5) for comparison to observed site conditions. The *City of Tempe Facility Chemical Handling and Spill Procedures* document was referenced in the SWMP and provided to the Audit Team prior to conducting site visits.

Due to their relevance to the City's obligations under its MS4 permit, summary observations pertaining to the site visits are presented below. All referenced exhibits are contained in Appendix B, Exhibit Log, and all referenced photographs are contained in Appendix C, Photograph Log.

Hardy Maintenance Yard

The Hardy Maintenance Yard, owned and operated by the City, is used for various activities including the following: (1) vehicle and equipment storage, (2) material storage, (3) satellite accumulation area, (4) painting, (5) traffic signs shop and storage area, and (6) traffic crew operations. The Environmental Services Section of the Public Works Department conducted a facility inspection on August 24, 2011 and ranked the facility a Priority 2.

The Audit Team observed the following with regard to pollution prevention and good housekeeping at the Hardy Maintenance Yard:

- Sediment accumulation was observed in a low area down gradient of the vehicle and equipment parking area (see Appendix C, Photograph 1). According to City staff, stormwater sheet flows across the facility and drains to a City-owned basin immediately adjacent to the Hardy Maintenance Yard.
- Minor staining on the ground surface was observed in the vehicle and equipment staging area (see Appendix C, Photograph 1).

Priest Maintenance Yard

The Public Works Priest Maintenance Yard, owned and operated by the City, is used for various activities including the following: (1) vehicle and equipment maintenance, (2) painting shop, (3) wash bay, (4) garbage truck, vehicle, and equipment storage, (5) roll-off container storage, (6) garbage bin storage, (7) material storage, (8) tire shop, and (9) recycled asphalt stockpiling. Additionally, the Tempe Police Department maintains two areas for vehicle impounding, and the City's Parks Department occupies an area for storing various materials. According to the City, the Priest Maintenance Yard has coverage under a Multi-Sector General Permit (MSGP). While the Priest Maintenance Yard was assigned a Priority 1 ranking, it operates under the MSGP and the City's EHS Manager is responsible for conducting facility inspections quarterly and annually, rather than the Environmental Services Division.

The Audit Team observed the following with regard to pollution prevention and good housekeeping at the Priest Maintenance Yard:

- Water was observed in the gutter that runs through the facility adjacent to garbage truck parking area (see Appendix C, Photographs 2 and 3). The Audit Team observed a water truck filling its tank at a location up gradient of the garbage truck parking area. Overfilling the water truck may result in water runoff through the site. However, the practice was not actively occurring and therefore the source of the water in the gutter could not be confirmed at the time of the audit.
- Sand spread on asphalt was observed near roll-off container storage area (see Appendix C, Photograph 4). Visible staining within sand and evidence of staining on asphalt may indicate sand was being used as absorbent material. City staff accompanying the Audit Team was not certain why the sand had been spread on the asphalt.
- Various construction-related materials were observed in a fenced off area up gradient from the Priest Maintenance Yard. According to the City's EHS Manager, the material storage area is managed by the Parks Department. During the visit, the Audit Team observed aggregate stockpiles and construction debris with no erosion or sediment control best management practices

(BMPs) in the Parks Departments storage area (see Appendix C, Photographs 5 and 6). Additionally, various materials including paint cans, aerosol cans, and paint thinner was being stored outside, exposed to stormwater and not in containment (see Appendix C, Photograph 7). It should be noted, after the site visit the City informed the Audit Team that the Parks Department addressed the issues related to the improper storage of paint and other chemicals.

- Staining underneath a street sweeper was observed in the vehicle and equipment staging area (see Appendix C, Photograph 8). The Audit Team was not able to confirm if the stain was from the contents of the sweeper, water, or mechanical issues.
- Gully erosion was observed on the access road sloping down from a public bike path (see Appendix C, Photograph 9). City staff indicated that the road is not vehicle accessible. The City should consider grading the road to prevent further erosion.
- The Tempe Police Department has two designated areas at the Priest Maintenance Yard for vehicle impounds. During the site visit the Audit Team observed vehicles stored in the impound area that were damaged. The City staff accompanying the Audit Team during the site visit were not able to provide information about the process for draining fluids from vehicles that have been in accidents prior to storing in the impound lots.

Household Products Collection Center

The Household Products Collection Center owned and operated by the City, collects, recycles, and disposes of household hazardous waste. Items such as automotive products, electronics, cleaning products, paints and solvents, and pesticides can be brought to the collection center for recycling or proper disposal. The Environmental Services Section of the Public Works Department conducted a facility inspection on August 26, 2011 and ranked the facility a Priority 1.

The Audit Team observed the following with regard to pollution prevention and good housekeeping at the Household Products Collection Center:

- Electronic waste (e-waste) was stored outside on a loading dock (see Appendix C, Photograph 10). The e-waste accepted at the Household Products Collection Center includes computers, monitors, televisions, and phones. The City should consider storing e-waste under a cover to prevent exposure to stormwater.

Kiwanis Park Maintenance Facility

The Kiwanis Park Maintenance Facility owned and operated by the City, is used for various activities including the following: (1) park-related maintenance activities, (2) fertilizer storage, (3) aggregate stockpiling, (4) equipment storage, (5) fleet maintenance, (6) wash rack, (7) fueling operations, and (8) equine boarding. The Environmental Services Section of the Public Works Department conducted a facility inspection on December 28, 2011 and ranked the facility a Priority 1.

The Audit Team observed the following with regard to pollution prevention and good housekeeping at the Kiwanis Park Maintenance Facility:

- Staining was observed in the equipment parking area (see Appendix C, Photograph 11). The City should continually monitor equipment and perform necessary maintenance to prevent or minimize equipment leaks. Additionally, the City should consider using drip pans under leaking vehicles or equipment.
- Water was observed in the gutter and was also visible on pervious surfaces up gradient of the gutter (see Appendix C, Photographs 12 and 13). City staff indicated the area is used for washing activities and water observed during site visit may have been from rinsing out the back of a truck. City staff told the Audit Team that City-owned trucks are used to collect bags of garbage throughout the park and after off-loading the garbage bags, drivers will rinse out the back of the truck. The City should review existing procedures to ensure controls are in place and adequate facilities and BMPs provided for washing activities.

- Coals collected from the grills located in the Kiwanis Park were observed on the ground at the maintenance facility (see Appendix C, Photograph 14). City staff told the Audit Team that staff collects the coals in the Kiwanis Park and brings them back to the maintenance facility for disposal. Typically the coals are collected in bins; however, at the time of the site visit, coals were observed on the ground exposed to stormwater.
- Water was observed in the gutter that runs through the facility adjacent to administrative building and parking area (see Appendix C, Photographs 15 and 16). The Audit Team observed a water truck parked up gradient of the gutter. Water observed in gutter may have come from the water truck; however, this could not be confirmed at the time of the audit.
- Visible staining was observed outside an area used by fleet maintenance to store waste oil and transmission fluid (see Appendix C, Photographs 17 and 18). City staff told the Audit Team that a mechanism was being custom-made to prevent spills during material transfer.

Ken McDonald Golf Course Maintenance Facility

The Ken McDonald Golf Course Maintenance Facility owned and operated by the City, is used for various activities including the following: (1) vehicle and equipment storage, (2) fertilizer storage, (3) material storage, and (4) aeration pumping system for a golf course pond. The Environmental Services Section of the Public Works Department had not yet conducted a facility inspection at the time of the audit; however, the facility was ranked Priority 1.

The Audit Team observed the following with regard to pollution prevention and good housekeeping at the Ken McDonald Golf Course Maintenance Facility:

- A green substance was observed on asphalt under a covered area (see Appendix C, Photograph 19). City staff told the Audit Team the substance was tracker dye and the spill had recently occurred. While the spill occurred underneath a covered maintenance bay, processes should be developed and implemented to ensure spills are cleaned up in a timely manner.
- Soil was observed on old sprinkler heads being stored outside (see Appendix C, Photograph 20). The City staff informed the Audit Team that sprinkler heads will be recycled and are being temporarily stored. The City may consider storing underneath cover due to the amount of soil remaining on the sprinkler heads.
- Grass clippings and sediment accumulation was observed in multiple areas at the facility (see Appendix C, Photograph 21 through 23). Improved maintenance is needed to ensure grass clippings and sediment is regularly removed to prevent exposure to stormwater.
- Staining was observed next to equipment no longer in operation and in equipment storage areas (see Appendix C, Photographs 24 through 27). Processes should be developed and implemented to ensure adequate maintenance of equipment is performed to prevent leaks.

Rolling Hills Golf Course Maintenance Facility

The Rolling Hills Golf Course Maintenance Facility owned and operated by the City, is used for various activities including the following: (1) vehicle and equipment storage, (2) fertilizer storage, (3) material storage, and (4) fueling operations. The Environmental Services Section of the Public Works Department conducted a facility inspection on September 9, 2011 and ranked the facility a Priority 2.

The Audit Team observed the following with regard to pollution prevention and good housekeeping at the Rolling Hills Golf Course Maintenance Facility:

- Water was observed from washing activities (see Appendix C, Photographs 28 and 29). City staff told the Audit Team that mowers are rinsed off in the area and the Audit Team noted that the ground was saturated.

- A spill kit stored outside had a cracked lid and as a result water had accumulated inside the container significantly reducing the effectiveness of its contents (see Appendix C, Photograph 30).
- Multiple stockpiles of material including sand and compost/sand mix were observed on site with no erosion or sediment control BMPs (see Appendix C, Photographs 31 through 35). Two stockpiles were observed in the parking lot for the golf course outside the maintenance facility (see Appendix C, Photograph 36).
- Slopes along property boundary of the facility and golf course bordering the Phoenix Zoo had high potential for erosion (see Appendix C, Photographs 37 and 38).

2.3 Construction Sites

The Permit requires the City to implement the provisions of Appendix A, Part VI, Construction Sites, including detailing the components of the program in the SWMP. The City's construction site program must include the specific requirements and the measurable goals listed in Appendix A, Part VI, Sections A-G.

On March 8, 2012, the Audit Team conducted site visits at one public construction site and four private construction sites. All five sites has active construction occurring. All four of the private sites had obtained building permits regulated under the authority of the City's Community Development Department. The purpose of the site visits was to assess the City's oversight activities for construction sites. Summary observations pertaining to a subset of these sites are presented below where they directly pertain to the City's oversight obligations under its MS4 permit.

Positive Attribute:

2.3.1 Effective use of erosion and sediment control BMPs and high stormwater awareness were evident at the public construction site. The Audit Team visited the East Valley Bus Operations and Maintenance Facility which was undergoing an expansion and upgrade. The Audit Team met with the City inspector and the contractor representative. Appropriate erosion and sediment control BMP's were observed on site, the BMPs were installed correctly, and the BMPs appeared to have been maintained at regular intervals. No site deficiencies were identified. Furthermore, the rapport between the City inspector and the contractor appeared to be routine and effective and expectations for site conditions had been established.

Potential Non-compliance:

2.3.2 Inadequate and inappropriate use of BMPs to effectively control potential stormwater pollutants was observed at private construction projects. Appendix A, Part VI, Section F of the Permit states "the City shall inspect construction projects to determine whether effective erosion and sediment controls are in place and verify conformance with local stormwater requirements and approved construction plans." To comply with this requirement, the City representatives stated that the inspectors focus their attention and oversight exclusively on perimeter erosion and sediment control BMPs with a goal of preventing sediment and runoff from entering the MS4. Additionally, it was stated that the on-site stormwater retention facility was the primary BMP for accomplishing this goal as on-site stormwater is to be routed to the retention facility during active construction. During meetings with staff in the Engineering Department the Audit Team was informed that City inspectors and plan reviewers did not evaluate the adequacy or content of the SWPPP submitted by the project proponent and the SWPPP was not used or reviewed by the City inspectors during active construction.

During the interview session and again during the field component it was stated that the City inspectors did not have access to, or rely upon, established or city-specific BMP design standards for erosion and

sediment control BMPs. Therefore, the determination regarding the appropriateness of the BMPs, their installation and maintenance was left to the discretion of the City inspector.

During the site visits BMP appropriateness and installation and maintenance deficiencies were noted at each of the active construction sites. The Audit Team observed improper use of BMPs for perimeter control and limited or no BMPs (i.e. inlet protection) beyond perimeter controls. Additionally, while the on-site retention facility would have captured and retained a portion of any runoff at most of the sites, other pathways and areas of high vulnerability for sediment discharge and runoff reaching the MS4 were observed at each of the sites.

Because of their relevance to the City's obligations under its MS4 permit, summary observations pertaining to the site visits are presented below. All referenced photographs are contained in Appendix C, Photograph Log.

Arizona State University ISTB4

During the site visit to the Arizona State University ISTB4 construction project the Audit Team did not observe BMPs at the catch basin (see Appendix C, Photograph 39). Additionally, water was observed in the gutter and the Audit Team was told that the water was likely from the water truck, grinder, or sweeper.

San Marque Apartment

During the site visit to the San Marque Apartments light track-out was observed at the entrance to the project. Additionally the Audit Team did not observe inlet protection and the straw wattles had not been installed properly.

Lake Country Village

During the site visit to Lake Country Village the Audit Team observed inappropriate and inadequate use of BMPs. For example, proper installation of wattles includes entrenching and staking into the ground and the use of effective stabilized construction entrance. At Lake Country Village, wattles were placed directly on asphalt (see Appendix C, Photographs 40 and 41). Additionally, the Audit Team observed material stockpiles with no erosion or sediment control BMPs (see Appendix C, Photograph 42).

Baer's Den

The fourth active construction project visit by the Audit Team was to Baer's Den. The Audit Team observed wattles used for perimeter controls. However, the wattles were in poor condition, not entrenched, and the joints were not abutted (see Appendix C, Photographs 43 through 45). Furthermore, perimeter controls were not installed in all areas and inadequate inlet protection was observed (see Appendix C, Photographs 46 and 47).

The City should substantially improve their construction oversight program by (1) adopting or developing erosion and sediment control BMP installation and maintenance specifications, (2) providing additional training to inspectors regarding their use, (3) ensuring the effective use and maintenance of perimeter control BMPs to effectively ensure against sediment and runoff discharges to the MS4, (4) encouraging and/or requiring more effective internal drainage channels that will maximize the use of the on-site retention facility, (5) implementing procedures to review SWPPPs for private projects, and (6) encouraging efforts to provide enhanced consistency and continuity between the public and private construction site oversight obligations and expectations, inspection process and inspector responsibilities.

3.0 ADDITIONAL OBSERVATIONS

The Audit Team made several additional observations during the audit.

- As a recommendation for improving the public education and outreach program, the City may consider enhanced efforts to measure the effectiveness of the existing public education and outreach program within the community. The efforts could be tailored to measure awareness and behavioral changes based on the current program structure. Additionally, the City may consider developing a branding message for the stormwater program to communicate to the City Council and the citizen base conveying the overall objective of the program.
- The City should consider improving standard operating procedures and process for conducting dry weather flows to ensure the safety of staff is not at risk during inspections.
- The City had established a requirement obligating on-going maintenance of post-construction controls. However, the City may consider developing a system for tracking the deployment of post-construction controls both within private and public lands. While the City only identified a few post-construction controls, other than the widely used on-site retention, establishing a tracking system would ensure any new post-construction controls are accounted for to ensure proper long-term operation and maintenance of these additional controls. Additionally, the City may consider establishing a program to guide the development community to design and implement post-construction controls that address pollutants of concern.

Appendix B

Exhibit Log

Exhibit 1
Sign-in Sheets dated March 7, 2012 and March 8, 2012

MS4 PROGRAM EVALUATION SIGN-IN SHEET (PLEASE PRINT)

Permittee:

City of Tempe

Date conducted:

3/7/12

Permit No.

AZ5000005-2010

Name	Title	Company	Department	Phone
Marleina Overton	Consultant	PG Environmental		808/372-2941
Michael Golden	Env. Compliance Supervisor	City of Tempe	PW/Utilities	480-350-2674
John E Eyre	Environmental Engineer/Compliance officer	ADEQ	SRO	520-628-6721
Shemi Zenari	ADEQ SRO Compliance	ADEQ	SRO	520-740-3126
Eric W. Staudike	Env Qual Spec	COT	ENV	480-350-2646
Tamara Bednarik	Environmental Quality Specialist	City of Tempe	Environmental	(480) 350-2689
Jeremy Mihus	Env. Program Supervisor	City of Tempe	PW - Water Utilities	(480) 350-2852
David McNeil	Env. Svcs. Mgr	City of Tempe	PW/Water/Environmental	(480) 350-2844
Wes Gantner	Consultant	PG-Environmental		(303) 279-1778, ext 100
Isaac A. Chavira	Trans. Maint. Mgr	City of Tempe	PW/Transportation	(480) 350-8349

MS4 PROGRAM EVALUATION SIGN-IN SHEET (PLEASE PRINT)

Permittee: City of Tempe

Date conducted: 3/8/12

Permit No. AZS000005-2010

Name	Title	Company	Department	Phone
Marleina Overton	Consultant	PG Environmental		808-372-2141
Sherni Zendri	Compliance Mgr	ADEP	Southern Reg. Office	520.770.3126
John E Eyre	Env. Engineer Compliance off.	ADEQ-SRO	" "	520-628-6721
Michael Golden	Env. Compliance Exp.	City of Tempe	Pw/WWD	480-350-2674
Denise Brewer	CIP Construction Manager	COT	PW/ENG	(480) 350-8409
Fredrick Garcia	Sr. Eng. Associate	COT	PW/Eng.	480-350-8429
Donna Hancock	CIP DESIGN & CONSTRUCTION MANAGER	COT	PW/ENG.	480 350 8630
KEN HALLORAN	CIP DESIGN	COT	PW/ENG	480 350 8855
JAMES GILWEL	COT/ENG CH	COT	PW/ENG	480 350-8414
Jeremy Mitkus	ENV Program Supervisor MGR - INFRASTRUCTURE	COT	PW/Water Utilities	480-350-2852
TOM WILHITE	COT SECT SECTION	COT	PW/ENGR	480-350-2921
David McNeil	Env. Sols. Mgr	COT	PW/H2O/Env.	480-350-2844
Wes Gantner	Consultant	PG Environmental		303-279-1778 ext 100

Exhibit 2
Notice of Program Evaluation and Records Request, dated
February 23, 2012

MS4 PROGRAM EVALUATION
CITY OF TEMPE, AZ
MARCH 7 — 8, 2012

Records requested to be available on-site:

Program Management/ Kick-off Meeting

1. Current Storm Water Management Program document—written description of your current MS4 Programs/Program Areas
2. Program organizational chart and/or a description of the departments involved in the implementation of your MS4 program and their responsibilities
3. Current MS4 permitted area, land use, and receiving waters map—City background, demographics, and context
4. Any formal agreements with other local governments for implementation of your MS4 programs (e.g., memoranda of understanding)

Public Education, Outreach, Participation, Involvement

5. Examples of program materials, outreach plans, target audiences and approaches, news paper articles, agreements with other partners (e.g., STORM), data demonstrating program achievements and measureable goals
6. Surveys or tangible examples of improved awareness and behavioral changes

Illicit Discharge and Elimination

7. Storm drain system map and onsite demonstration of any associated mapping tools. Emphasize layers/mapping that informs the MS4 program activities (e.g., storm drain system, structural controls, outfalls, receiving waters, etc.)
8. A representative schedule, map, or description of the outfall inspection program, infrastructure inspections, or other methods used to identify illicit discharges and/or connections.
9. An inventory of businesses, entities, or areas inspected, visited, or observed as part of the illicit discharge program. Also provide a copy of the inspection form(s) used by city inspectors.
10. Onsite demonstration of the database or system used to report and record illicit discharge incident information and/or call outs. As part of this effort, 2 - 3 hardcopy examples of a completed illicit discharge incident that includes identification, response, and remedy. At least one of the examples should include an example/case file of an incident where enforcement was used (ideally full extent of enforcement authority).
11. If available, the most current list or map of priority areas/areas of concern within the MS4 and/or areas receiving increased surveillance and/or points within the MS4 where dry weather flows are intercepted/directed into the sanitary sewer for treatment, if any.

Construction Site Storm Water Runoff Control

12. All ordinances pertaining to land disturbing activities (e.g., erosion and sediment control)
13. All other construction-related regulatory mechanisms (e.g., land disturbance or grading permit)
14. Erosion and Sediment (E&S) Control Plan/SWPPP review checklist
15. Construction site plan review procedures
16. Construction BMP Manual
17. Construction inspection and enforcement procedures
18. Construction inspection field checklist
19. Construction inspection records (most recent Reporting Year)—EPA Inspection Team will select specific sites at the time of the inspection
20. Inventory/map of current active construction sites with location
21. Example/case file of a construction site issue where enforcement of local ordinance was used (ideally full extent of enforcement authority)
22. Records of follow up actions to citizen/employee complaints regarding construction site issues (most recent Reporting Year)
23. Training records and syllabus (i.e., training content) for educating construction site operators and municipal operations staff (most recent Reporting Year)

Post-Construction Storm Water Management

24. All post-construction related ordinances and regulatory mechanisms pertaining to development and redevelopment
25. Example post-construction BMP plan
26. Post-construction plan review checklist
27. Post-construction BMP Manual and design standards
28. Database/map of post-construction BMPs with location and maintenance status (differentiating municipally owned and operated from private)
29. Records of post-construction BMP completion and/or maintenance inspections (most recent Reporting Year)—EPA Inspection Team will select specific sites at the time of the inspection
30. Requirements for long-term operation and maintenance of post-construction BMPs

Pollution Prevention/Good Housekeeping for Municipal Operations

31. Inventory/map of municipal facilities/corporate yards
32. Example Storm Water Pollution Prevention Plan for those facilities regulated under the MSGP—EPA Inspection Team may select additional sites at the time of the inspection
33. Municipal employee training records and syllabus (i.e., training content) on pollution prevention and IDDE
34. Standard operating procedures (SOPs) and checklists used for conducting municipal facility inspections
35. Records (i.e., completed checklists) for municipal facility inspections (most recent Reporting Year)—EPA Inspection Team will select specific sites at the time of the inspection
36. Example of the use of Intelex system operated by the City.

Industrial/Commercial Facilities Program

- 37. Inventory/map of industrial and commercial facilities
- 38. Industrial/commercial facility inspection and enforcement procedures
- 39. Industrial/commercial facility inspection field checklist
- 40. Industrial/commercial facilities inspection records (most recent Reporting Year)—
EPA Inspection Team will select specific sites at the time of the inspection
- 41. Example/case file of a industrial/commercial site issue where enforcement of local ordinance was used (ideally full extent of enforcement authority)

Measuring Effectiveness and Monitoring

- 42. Onsite presentation and discussion of the City's efforts to measure program effectiveness.
- 43. Records pertaining to ongoing monitoring including but not limited to: monitoring locations; QAPPs, monitoring program documents or SOPs; field data collection and chain-of-custody forms; analytical results; databases or processes for data compilation, analysis, and reporting; and data interpretation and reports.

***Note: In addition to the numbered items requested, also provide any other documents or tools that you believe demonstrate program development and structure.**

Exhibit 3
City of Tempe Public Works Department Illegal Discharge
Detection and Elimination Field Data Inspection Form

City of Tempe Public Works Department
Illegal Discharge Detection and Elimination Field Data Inspection

OUTFALL ID: _____		Inspected by: _____	
INSPECTION DATE: _____		TIME: _____	
		Outfall Diameter (inches): _____	
GENERAL INFORMATION:			
Time Since Last Rain: <input type="checkbox"/> > 72 hours		<input type="checkbox"/> < 72 Hours	
Quantity of Last Rain: _____		<input type="checkbox"/> N/A	
FIELD SITE DESCRIPTION: GPS Coordinates: _____			
<input type="checkbox"/> Open Channel		<input type="checkbox"/> Manhole <input type="checkbox"/> Outfall	
DOMINANT WATERSHED LAND USE: <input type="checkbox"/> Industrial <input type="checkbox"/> Commercial			
<input type="checkbox"/> Residential		<input type="checkbox"/> Other	
Describe Other: _____			
FLOW ESTIMATES			
Flow Observed: <input type="checkbox"/> Yes <input type="checkbox"/> No			
Is flow known to be from irrigation or tail water source? <input type="checkbox"/> Yes <input type="checkbox"/> No**			
(If yes, explain in comments.)		Uses inches in appropriate locations	
		Channel Width	
		1. Width of water surface: _____	
		2. Approximate depth of water: _____	
		3. Approximate flow velocity (feet per second): _____	
		4. Flow rate (c.f.s.) = 1 x 2 x 3 = _____	
VISUAL OBSERVATION			
Photo taken? <input type="checkbox"/> Yes <input type="checkbox"/> No		If yes, Photo ID - _____	
Odor:	<input type="checkbox"/> None <input type="checkbox"/> Musty <input type="checkbox"/> Sewage <input type="checkbox"/> Rotten Egg <input type="checkbox"/> Sour Milk <input type="checkbox"/> Other		
Color:	<input type="checkbox"/> Clear <input type="checkbox"/> Red <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Brown <input type="checkbox"/> Other		
Clarity:	<input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Opaque <input type="checkbox"/> Suspended Solids		
Floatables:	<input type="checkbox"/> None <input type="checkbox"/> Oily Sheen <input type="checkbox"/> Garbage/Sewage <input type="checkbox"/> Other		
Deposits/Stains:	<input type="checkbox"/> None <input type="checkbox"/> Sediment <input type="checkbox"/> Oily <input type="checkbox"/> Other		
Vegetation:	<input type="checkbox"/> None <input type="checkbox"/> Normal <input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited		
Structural :	<input type="checkbox"/> Normal <input type="checkbox"/> Concrete cracking/Spalding <input type="checkbox"/> Metal Corrosion		
Biological:	<input type="checkbox"/> Mosquito Larvae <input type="checkbox"/> Bacteria/Algae <input type="checkbox"/> Normal		
	<input type="checkbox"/> Other _____		
FIELD ANALYSIS			
Water Temp:	_____ ° C	Chlorine (T):	_____ mg/l
pH:	_____ S.U.	Copper (T):	_____ mg/l
Phenol:	_____ mg/l	Detergents:	_____ mg/l
Was a laboratory sample collected? <input type="checkbox"/> Yes <input type="checkbox"/> No			
If yes, attach copy of Chain of Custody			
Comments: _____			

**** Triggers:** Any flow for which the discharge is not known or at least one analytical trigger is exceeded outfall must be screened again within a 24-hour period with a minimum period of four hours between samples. 1) Off-color, 2) Chemical, gas, or sulfur odor, 3) Highly turbid, 4) Presence of solid or liquid floatables, 5) Sheen, 6) Stains, 7) Excessive growth or lack of growth, 8) Hot or cold, 9) pH <6.5 or >9 S.U., 10) Total Cl2 > 20 ppb or >4 Non or perennial waters, 11) presence of Cu, 12) presence of Phenol, 13) presence of detergent. Follow-up must occur again within three months.

Exhibit 4
City of Tempe Facility Inventory and Ranking

		Post inspection priority ranking	Inspection Follow-up (if needed)
WUD	Inspected		
WELLS			
WELL #1	06/30/11	2	
WELL #4	06/30/11	3	
WELL #6	06/30/11	3	
WELL #7	06/30/11	2	
WELL #9	06/30/11	2	
WELL #10	06/30/11	2	
WELL #11	06/30/11	2	
WELL #12	06/30/11	2	
WELL #13	06/30/11	3	
WELL #15	06/30/11	2	
Ken McDonald Well	06/30/11	3	
BOOSTER STATIONS			
SENDE VISTA	06/30/11	2	
1ST & HAYDEN	06/30/11	3	
KYRENE	06/30/11	3	
MARIGOLD	06/30/11	3	
LIFT STATIONS			
ALAMEDA	06/30/11	3	
KNOX	06/30/11	3	
Carver & Rural	06/30/11	2	
Camelot	06/30/11	3	
METERING STATIONS			
GILBERT	06/15/11	3	
NORTHWEST	06/15/11	3	
PRIEST	06/15/11	3	
48TH STREET	06/15/11	3	
GUADALUPE	06/15/11	3	
SOUTHERN	06/15/11	3	
PLANTS			
JOHN G MARTINEZ WTP			
KYRENE RECLAMATION			
SOUTH WTP			
miscellaneous			
Priest/Southern Biofilter	06/30/11	3	
Kyrene Utility Services	04/08/11	2	05/18/2001
Fire			
FIRE ADMINISTRATION			
FIRE STATION #1			
FIRE STATION #2			
FIRE MAINT. FACILITY			
FIRE MAINT. FACILITY (NEW)	07/21/2011	1	
FIRE STATION #3			
FIRE STATION #4	09/09/2011	2	
FIRE STATION #5			
FIRE STATION # 6			

Marleina Overton
317112

FIRE TRAINING FACILITY		
Parks & Rec		
Alegre	08/26/2011	3
Arredondo		
Arts	08/26/2011	3
Ben Arrendondo Sports Complex	07/27/2011	2
Benedict Sports Complex		09/16/2001
Birchett	08/24/2011	3
Campbell	07/27/2011	3
Celaya	07/27/2011	3
Clark	08/24/2011	2
Clark Rec Center	08/24/2011	3
Cole		
Community Center Complex		
Corbell	07/27/2011	3
Creamery	08/26/2011	3
Daley	08/24/2011	3
Daumler	08/24/2011	3
Double Butte Cemetery		
Dwight	08/26/2011	3
Ehrhardt	08/24/2011	3
Escalante		
Escalante Rec Center		2
Esquer	08/24/2011	3
Estrada	07/27/2011	3
Evelyn Hallman	09/09/2011	3
Galcki	07/27/2011	3
Goodwin	07/27/2011	3
Harelson	07/27/2011	3
Hanger	07/27/2011	3
Hardy Warner Skate Park	12/22/2011	3
Hayden Butte		
Hollis	08/26/2011	3
Hudson		
Indian Bend	09/09/2011	3
Jaycee	08/24/2011	3
Joyce		
* Ken McDonald Golf		
Ken McDonald Pro Shop		
Ken McDonald Maintenance		1
Kiwanis	12/22/2011	3
Kiwanis Rec Center	12/22/2011	2
* Kiwanis Park Maintenance	12/28/2011	1
Meyer	08/26/2011	3
Mitchell	08/24/2011	3
Moeur		
Northside		
Optimist	07/27/2011	3
Palmer		
Papago	08/26/2011	3
Playa del Norte		
Petersen	08/26/2011	3
Plazite de Descanso		
Redden	07/27/2011	3
Rolling Hills Golf	09/09/2011	2

Rolling Hills Maintenance	09/09/2011	1
Rotary	08/24/2011	3
Scudder	07/27/2011	3
Selleh	07/26/2001	3
Stroud	07/27/2011	3
Svob	08/26/2011	3
Tempe Beach		
Tempe Diablo Stadium Complex		
Diablo Stadium Maintenance		1
Tempe Women's Club	09/09/2011	3
Victory	08/24/2011	3
Waggoner (east)	04/13/2011	3
Waggoner (west)	04/13/2011	3

Comm Service

PYLE ADULT CENTER		
EDNA VIEL COMMUNITY CTR		
WEST SIDE MULTI GEN CTR	08/24/2011	3
NORTH TEMPE MULTI GEN CTR	01/25/2012	3
ESCALANTE BUILDINGS		
BENJAMIN B MOEUR HOUSE		
HACKETT HOUSE		
PERFORMING ARTS BUILDING		2
ELIAS RODRIGUEZ HOUSE		
PETERSON HOUSE	08/26/2011	3

Transportation

Tempe Transportation Center		
HARDY MAINTENANCE YARD	08/24/2011	2
EVBOB FACILITY		1
Traffic Maintenance Facility	08/26/2011	2

Police

POLICE BUILDING (BLDGS 1 & 2)		2
NORTH PD SUBSTATION	09/16/2001	1
Apache PD Sub & Call Center		
Police Equine Facility @ Kiwanis	12/28/2011	2
Robert Hawk Substation	12/22/2011	3
SOUTH PD SUBSTATION	12/22/2011	2

other PW

PRIEST YARD		1
HOUSEHOLD PRODUCT COLL CTR	08/26/2011	1
VEHICLE MAINTENANCE SOUTH	12/28/2011	1

Misc

EISENDRATH HOUSE		
BELL BUTTE RADIO FACILITY		2
RIO SALADO MARINA		
HAYDEN BUTTE RADIO FACILITY		
COURTS		
ORCHID HOUSE OFFICE SPACE		
525 BUILDING		
CITY HALL		2
TEMPE TOWN LAKE		

Totals

77

Exhibit 5
City of Tempe Chemical Handling and Spill Procedures

City of Tempe Facility Chemical Handling and Spill Procedures

Spill Prevention

- Keep containers closed until needed
- Use the least toxic material needed to complete the task
- Avoid storing materials outside uncovered
- Always be aware of drainage areas when working with materials outside
- Inspect material containers for damage and leaks – report problems to your supervisor
- Always wear the required personal protective equipment (PPE) needed when handling hazardous or non-hazardous materials (see MSDS)
- Know how to clean-up materials being used and have the proper tools and equipment available on-site (MSDS and HWMP)
- Know where the MSDS forms are kept and read them before using the material
- Know the proper method of disposal of waste and what to do with left-over materials used (MSDS and HWMP)
- Use secondary containment for materials when ever possible

Spills and leaks

- If you have a small spill or find a spill, clean it up or get assistance to clean it up.
- Large spills and leaks need to be reported to your supervisor immediately.
- Spills of a dangerous nature need to be reported immediately to 911 and your supervisor – professionals may be required to do the clean-up.
- If minor spills can't be cleaned-up quickly and safely, isolate spill from nearest storm water conveyance (catch basin, drywell, storm drain). Don't take actions beyond your training, equipment or ability. Call your supervisor and for clean-up assistance (see below).
- Spills in a public right-of-way need to be isolated from traffic and public. Deploy barriers (i.e. cones, flagging tape) before clean-up. Contact supervisor for these types of spills.
- Always uses proper PPE (i.e. gloves, eye protection) when cleaning up spills. If you don't have the proper equipment, contact your supervisor. You can always call for clean-up assistance (see below).
- Disposal of spilled materials must be made in accordance with regulatory standards. Contact 350-2819 (HPCC) for assistance.

Reporting

- Anything more than a minor spill should be reported to your supervisor
- Clean-up assistance is available by calling 480-250-5378
- Spills are to be reported to 350-2819 (HPCC) and 350-2811 (Stormwater Hot Line)

Appendix C

Photograph Log



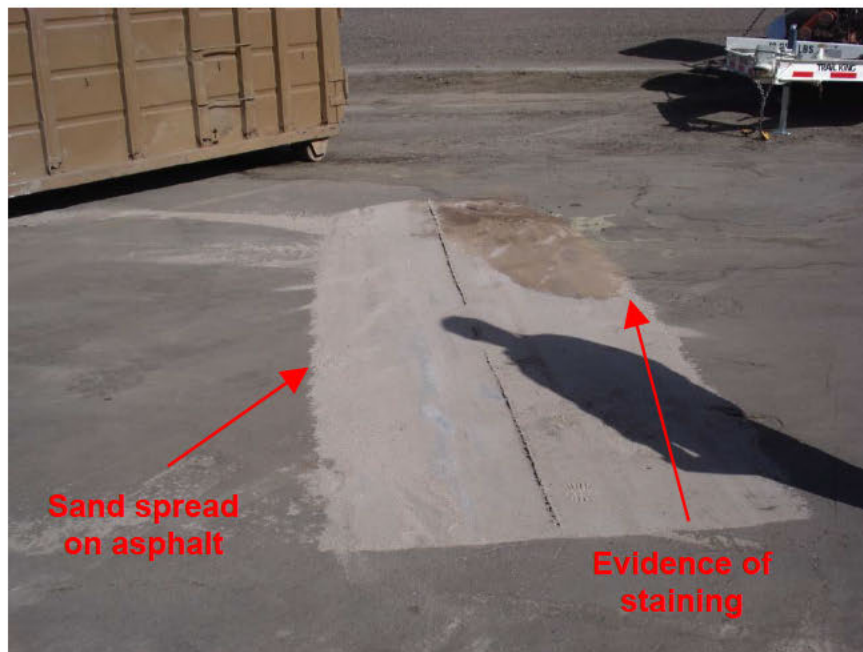
Photograph 1. Hardy Maintenance Facility – Sediment accumulation down gradient of vehicle and equipment parking area and staining visible on asphalt in vehicle and equipment parking area.



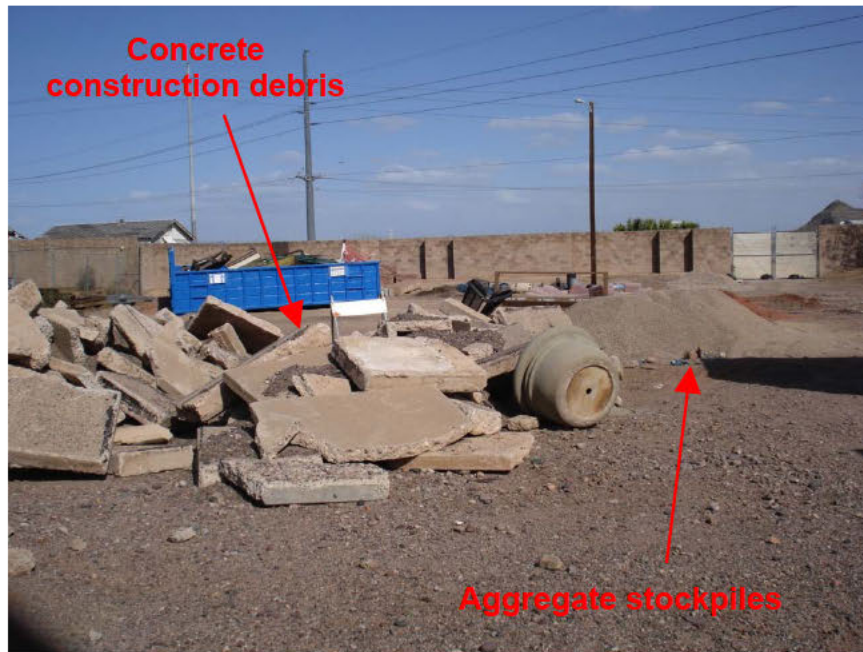
Photograph 2. Priest Maintenance Yard – View of water in gutter adjacent to garbage truck parking area.



Photograph 3. Priest Maintenance Yard – View of standing water in gutter and water staining from another flow event.



Photograph 4. Priest Maintenance Yard – Sand spread on asphalt. Note staining within sand and on asphalt adjacent to sand.



Photograph 5. Priest Maintenance Yard – View of construction debris and material stockpiles with no BMPs in the Parks Department’s storage area.



Photograph 6. Priest Maintenance Yard – View of construction debris with sediment in the Parks Department’s storage area.



Photograph 7. Priest Maintenance Yard – View of paint cans, aerosol cans, and paint thinner stored outside and exposed to stormwater.



Photograph 8. Priest Maintenance Yard – View of staining underneath street sweeper in vehicle and equipment parking area.



Photograph 9. Priest Maintenance Yard – View of gully erosion on access road sloping down from public bike path.



Photograph 10. Household Products Collection Center – Electronic waste stored outside on loading dock exposed to stormwater.



Photograph 11. **Kiwanis Park Maintenance Facility – View of staining on asphalt in parking area.**



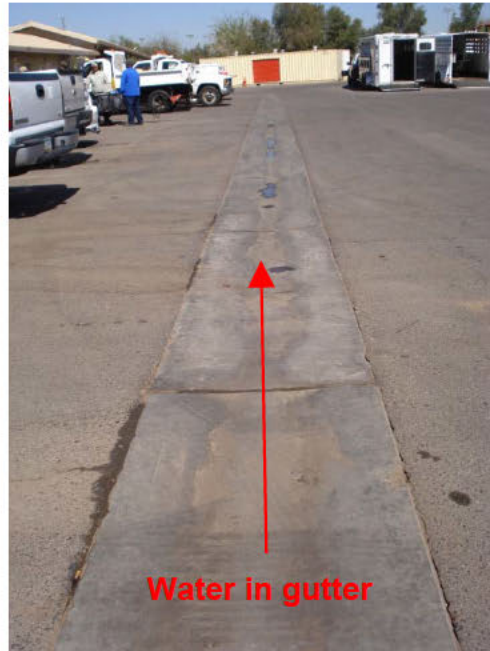
Photograph 12. **Kiwanis Park Maintenance Facility – View of water in gutter and on pervious area from washing activities.**



Photograph 13. Kiwanis Park Maintenance Facility – View of hose used for washing activities and ground saturated from washing activities.



Photograph 14. Kiwanis Park Maintenance Facility – View of charcoal coals collected from Kiwanis park on pervious ground.



Photograph 15. Kiwanis Park Maintenance Facility – Water in gutter adjacent to administrative building and parking area.



Photograph 16. Kiwanis Park Maintenance Facility – Water truck parked up gradient from area where water observed in gutter. Small amount of water observed on ground next to truck.



Photograph 17. Kiwanis Park Maintenance Facility – Material storage area including waste oil and transmission fluid.



Photograph 18. Kiwanis Park Maintenance Facility – Staining outside waste oil storage area.



Photograph 19. Ken McDonald Golf Course Maintenance Facility – View of green substance spilled on the ground under a covered storage area.



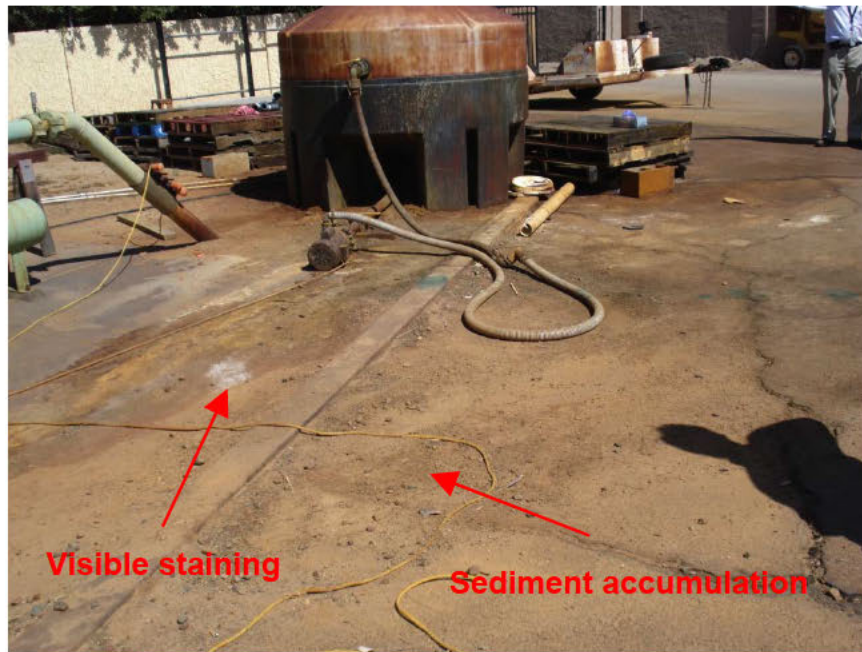
Photograph 20. Ken McDonald Golf Course Maintenance Facility – View of soil on sprinkler heads stored outside.



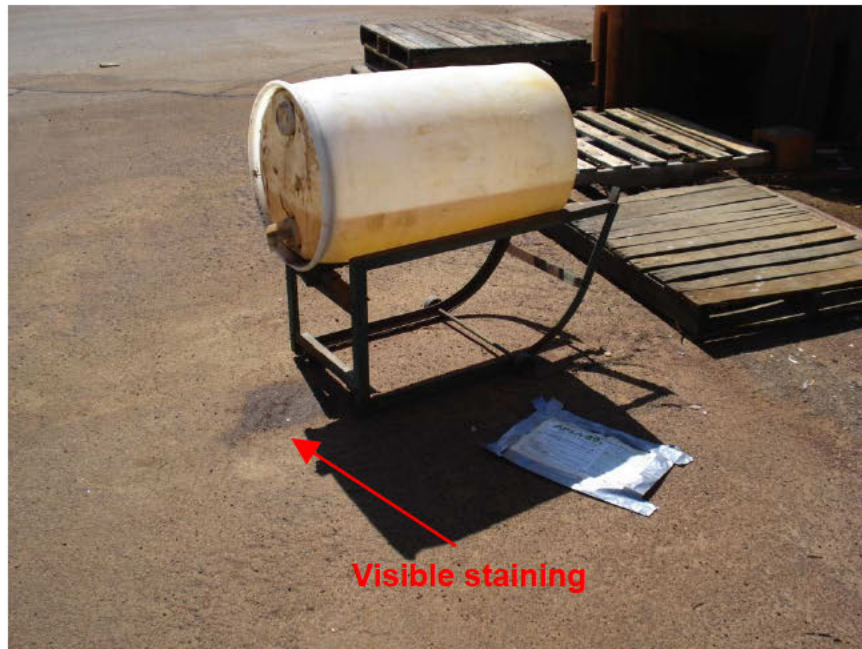
Photograph 21. Ken McDonald Golf Course Maintenance Facility – Grass clippings accumulated along curb.



Photograph 22. Ken McDonald Golf Course Maintenance Facility – View of grass clippings and sediment accumulation.



Photograph 23. Ken McDonald Golf Course Maintenance Facility – View of sediment accumulation along curb and view of staining on ground.



Photograph 24. Ken McDonald Golf Course Maintenance Facility – View of staining from nozzle of all-purpose spray adjuvant.



Photograph 25. **Ken McDonald Golf Course Maintenance Facility – View of staining on asphalt.**



Photograph 26. **Ken McDonald Golf Course Maintenance Facility – View of staining on asphalt in equipment storage area.**



Photograph 27. Ken McDonald Golf Course Maintenance Facility – View of staining in equipment storage area.



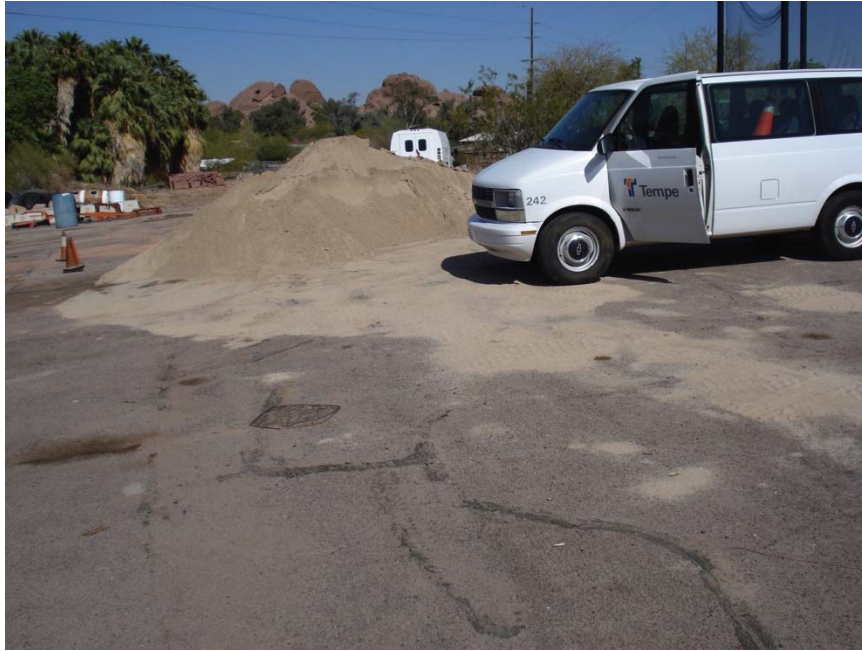
Photograph 28. Rolling Hills Golf Course Maintenance Facility – View of water from washing activities.



Photograph 29. **Rolling Hills Golf Course Maintenance Facility – View of area for washing equipment.**



Photograph 30. **Rolling Hills Golf Course Maintenance Facility – View of spill kit with water accumulation due to crack in lid and being stored outside.**



Photograph 31. Rolling Hills Golf Course Maintenance Facility – View of material stockpile with no erosion or sediment control BMPs.



Photograph 32. Rolling Hills Golf Course Maintenance Facility – View of material stockpiles with no erosion or sediment control BMPs.



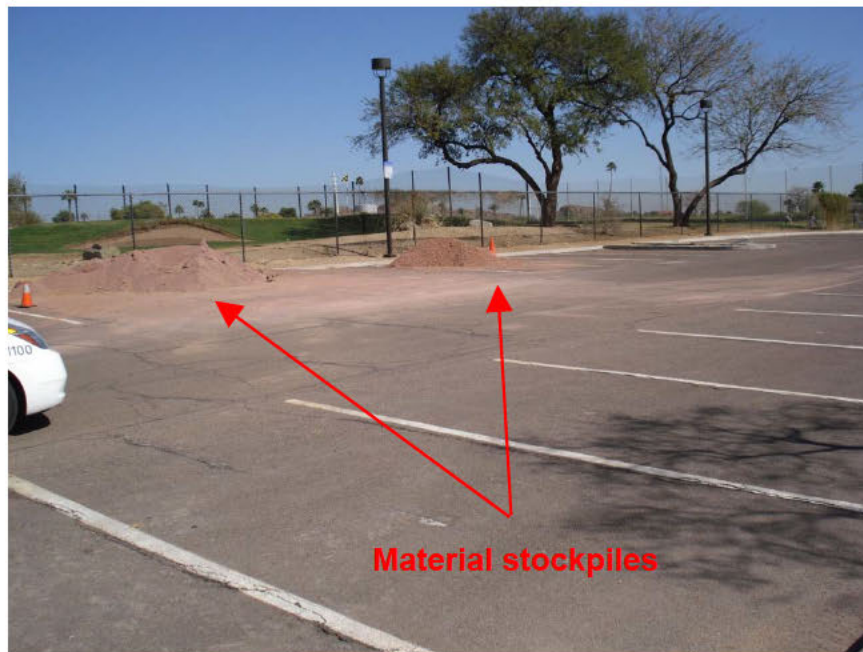
Photograph 33. Rolling Hills Golf Course Maintenance Facility – View of material stockpile with no erosion or sediment control BMPs.



Photograph 34. Rolling Hills Golf Course Maintenance Facility – View of material stockpile with no erosion or sediment control BMPs.



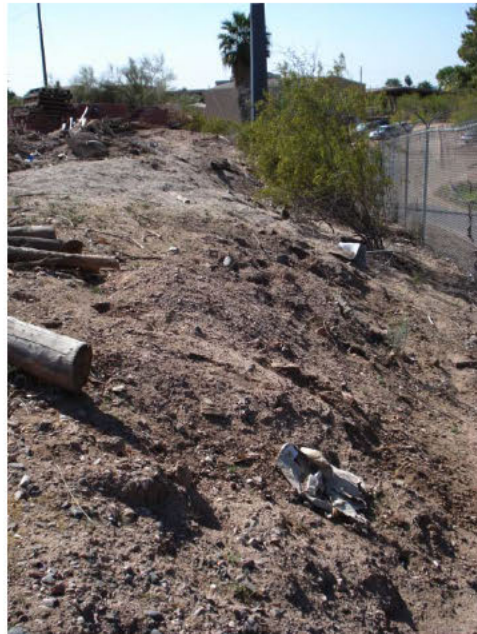
Photograph 35. Rolling Hills Golf Course Maintenance Facility – View of material stockpile and garbage with no erosion or sediment control BMPs.



Photograph 36. Rolling Hills Golf Course Maintenance Facility – View of material stockpiles in parking lot for golf course with no erosion or sediment control BMPs.



Photograph 37. Rolling Hills Golf Course Maintenance Facility – View of slope down from Kiwanis Golf Course to Phoenix Zoo property.



Photograph 38. Rolling Hills Golf Course Maintenance Facility – View of slope down from Kiwanis Golf Course to Phoenix Zoo property.



Photograph 39. ASU ISTB4 – View of street milling and washing. Catch basin BMPs were not in use at this site.



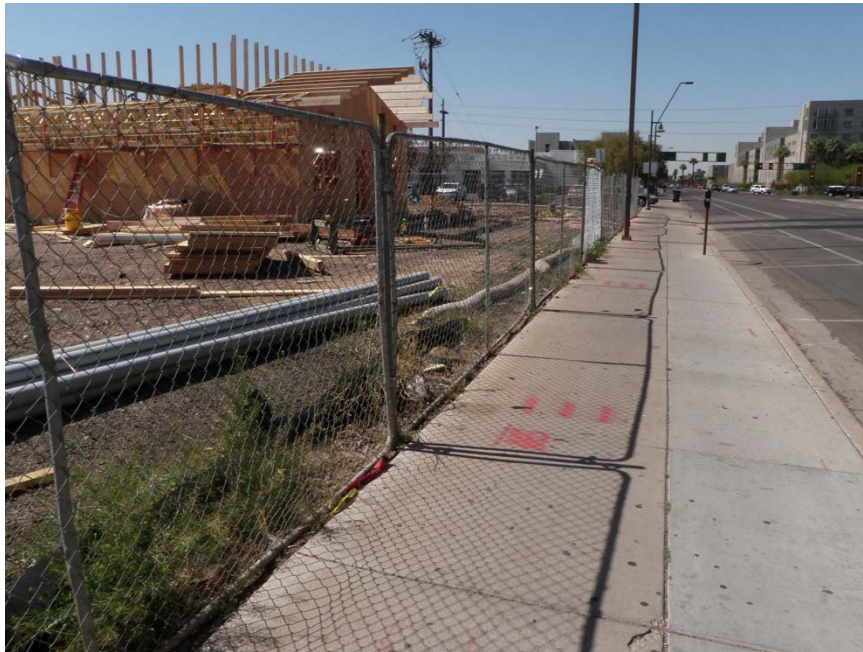
Photograph 40. Lake Country Village – Straw wattles placed directly on asphalt. No on site controls used for soil stockpiles.



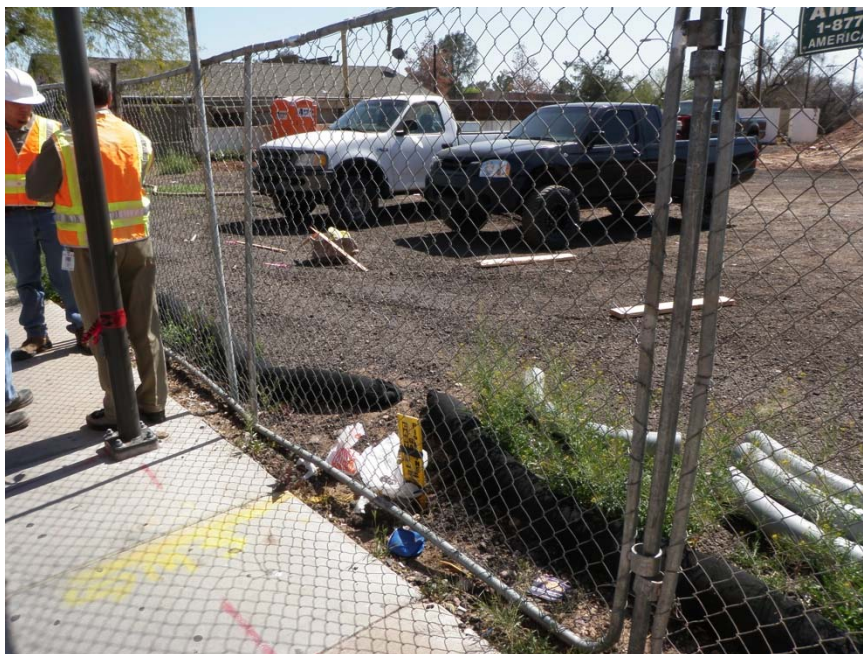
Photograph 41. Lake Country Village – Straw wattles placed directly on asphalt.



Photograph 42. Lake Country Village – View of southeastern portion of the site with only limited perimeter controls. It was unclear how, or if, runoff would be diverted to on site retention facility located at southwest corner.



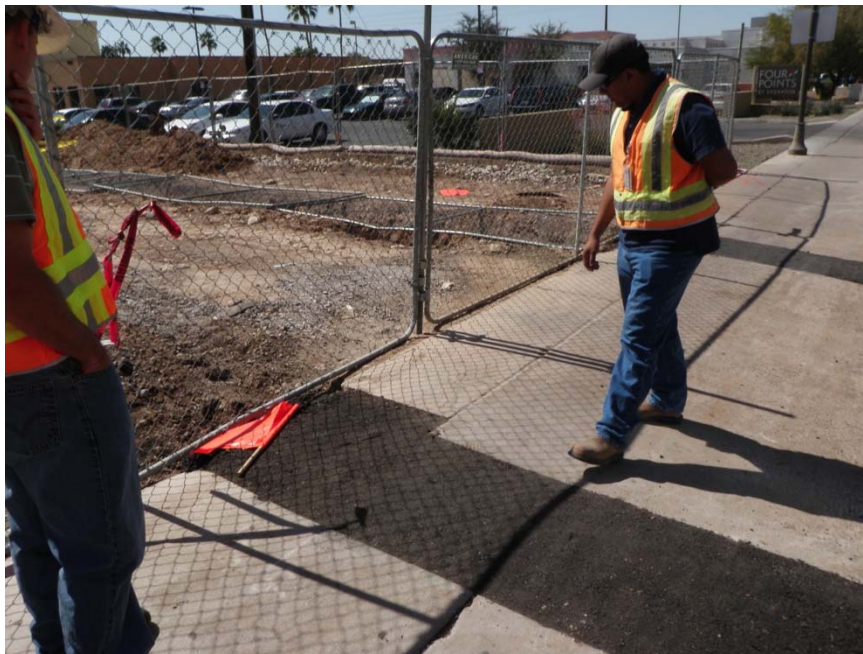
Photograph 43. Baer's Den – View of gravel bags used as perimeter control.



Photograph 44. Baer's Den – View of gravel bags used as perimeter control.



Photograph 45. Baer's Den – View of gaps of gravel bags used as perimeter control.



Photograph 46. Baer's Den – View of no perimeter control or stabilized construction entrance at boundary of project.



Photograph 47. Baer's Den – View of inlet with no BMPs.

**Proposed Schedule for MS4 Program Evaluation
of the City of Tempe, AZ
March 7-8, 2012**
(Subject to modification)

Day	Time	Program Area/ Agenda Item
Wednesday March 7, 2012	8:30 am - 9:00 am	Kick-off Meeting & Program Management Overview
	9:00 am - 9:30 am	Public Awareness and Public Involvement Activities (e.g., STORM, City and Regional)
	9:30 am - 11:00 pm	IDDE and Industrial/Commercial Specifically, outfall inspections, select infrastructure inspections, and industrial/commercial facility inspections (Office)
	11:00 am – 12:00 pm	Municipal Facility Pollution Prevention and Good Housekeeping Specifically, municipal facility inspection program; Retention, Common, Recreation, and Open Areas Program; and Streets (Office)
	12:00 pm - 1:00 pm	Lunch Break
	1:00 pm - 4:00 pm	Team A – Municipal Facilities; Retention, Common, Recreation, and Open Areas Program; and Streets (possibly ARCA) (Field) Team B – Industrial/Commercial Facility Inspections and Outfall Inspections (Field)
Thursday Mar 8, 2012	8:30 am - 10:30 am	Construction/Post-Construction (Office)
	10:30 am - 12:00 pm	Team A - Construction (Field) Team B – Post Construction (Field)
	12:00 pm - 1:00 pm	Lunch Break
	1:00 pm - 3:30 pm	Team A - Construction/Post-Construction, or Follow-up on Prior Day 1 Items (Field) Team B – Monitoring and Measuring Program Effectiveness, or Follow-up on Prior Day 1 Items
	3:30 pm - 4:00 pm	Closing Conference ¹ Tentative time slot

¹ The City is encouraged to invite representatives from all applicable organizational divisions/departments.



CITY OF TEMPE

2010-2011

ANNUAL PHASE I MS4 REPORT

As Prescribed by AZPDES Permit No. AZ000005-2010 Appendix B

September 2011

*Prepared by the City of Tempe
Environmental Services Section
Regulatory Compliance Group*



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1. General Information

A. Name of Permittee

City of Tempe

B. Permit Number

AZPDES Permit No. AZS000005-2010

C. Reporting Period

July 1, 2010 – June 30, 2011

D. Stormwater Mgt. Program Contact

Name Jeremy Mikus
Title Environmental Program Supervisor
Mailing Address P.O. Box 5002, Tempe, AZ 85280
Phone (480) 350-2852
Fax Number (480) 350-2615
Email Address jeremy_mikus@tempe.gov

E. Certifying Official

Name Donald Bessler
Title Tempe Public Works Director
Mailing Address P.O. Box 5002, Tempe, AZ 85280
Phone (480) 350-8205
Fax Number N/A
Email Address don_bessler@tempe.gov

2. Annual Report Certification

The Annual Report Form (ARF) must be signed and certified by either a principal executive officer or ranking elected official; or by a "duly authorized representative" of that person in accordance with Sections 9.2 and 9.12 of the Permit.

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Signature of Certifying Official

9/20/11

Date



3. Narrative Summary of Stormwater Management Program Activities Report

This section provides a status summary addressing stormwater management program activities required by AZPDES Permit No. AZS000005-2010 (Permit). Included is a brief description of program or activity implementation and progress or challenges, where applicable, in each area during the reporting year. If applicable, any significant developments or changes to the number or type of activities, frequency or schedule of activities, or the priorities or procedures for specific management practices are explained. This section includes wording required by Appendix B of the Permit and additional information provided by Tempe.

A. Public Awareness Activities Including Outreach

Tempe Activities

Tempe has exceeded Permit requirements outlined in Appendix A, Sections I.A and I.B, by coordinating and participating in several public and business sector awareness and outreach activities. Over the 2010-2011 reporting year, Tempe has conservatively reached eight (8) target groups totalling approximately 46,473 people and/or businesses while covering a wide array of stormwater topics. Table 1 summarizes events, topics, number of people reached, number and type of materials distributed, and target groups. Examples of outreach materials can be found in **Attachment A**.

Regional Activities

The City of Tempe is an active member of Stormwater Outreach for Regional Municipalities, known as STORM. STORM is a regional organization promoting stormwater quality education within the greater Phoenix metropolitan area and was founded in 2002, in response to regulations requiring municipalities to implement measures to educate the public on ways to protect the quality of stormwater runoff. Benefits for the region include increased public awareness of the impacts of storm water pollution, shared experience and knowledge, pooled financial resources to address concerns common to all communities, protected environments, and improved quality of life.

The STORM organization is comprised of 22 members and benefits small, medium and large municipalities throughout the greater Phoenix metropolitan area. It has brought together the experience and resources of Phase I MS4s, including Phoenix, Mesa, Tempe, Glendale, Scottsdale, and Arizona Department of Transportation (ADOT) with the Phase II MS4s of Apache Junction, Avondale, Chandler, El Mirage, Fountain Hills, Gilbert, Guadalupe, Goodyear, Luke Air Force Base, Maricopa County, Paradise Valley, Peoria, Surprise, Tolleson, Youngtown, and Flood Control District of Maricopa County (FCDMC). All members are encouraged to participate at meetings that are held on the third Tuesday of each month.

Table 1: Summary of Public Awareness Activities and Outreach

Outreach Events	Date	Topic(s)	Number of People or Businesses Reached	Number and Type of Materials Distributed	Target Groups
<i>Municipal Facilities</i>	Jul-10 through Jun-11	Stormwater info for residents	500	500 bookmarks and NPS puzzles; 50 each Home Repair, Yard & Garden, Pool, Pet, and Auto BMPs	General Public
<i>E-Bulletin (3Q2010E-bulletin)</i>	Aug-10	MSGP permit & Tempe stormwater program info	115	115 Environmental Bulletins via e-mail.	Commercial, Industrial Businesses
<i>E-Bulletin (4Q2010E-bulletin)</i>	Oct-10	NEC & Tempe stormwater program info	115	115 Environmental Bulletins via e-mail.	Commercial, Industrial Businesses
<i>Tempe Tardeada</i>	10/10/2010	Stormwater information for home owners	200	200 (total) Home repair, Yard & Garden, Pet waste, FOG, Auto, and Pool BMPs distributed	General Public
<i>Gain Night</i>	10/23/2010	Stormwater information for home owners	1000	1000 (total) Home repair, Yard& Garden, Pet waste, FOG, Auto, and Pool BMPs distributed	Home Owner Associations, Residential Community
<i>Tempe Town Lake Pet Walk</i>	2/20/2011	Pet Waste and Stormwater Pollution	100	100 Pet Waste Brochures	Tempe Town Lake Visitors, General Public
<i>Tempe Chamber of Commerce</i>	2/25/2011	Fats, Oils, and Grease Disposal	10	FOG presentation including MS4 impacts	Restaurants
<i>E-Bulletin (1Q2011E-bulletin)</i>	3/1/2011	Tempe stormwater program info	115	115 Environmental Bulletins via e-mail.	Commercial, Industrial Businesses
<i>ASU Student Housing Fair</i>	3/23/2011	Stormwater information for residential use	200	200 (total) Home repair, Yard& Garden, Pet waste, FOG, Auto, and Pool BMPs distributed	Schools
<i>Annual Tempe Today Article</i>	Mar-11	Overview of stormwater program	44,000	Annual article in Tempe Today newsletter inserted into water bills	General Public, Residential Community, Industrial, Commercial Businesses
<i>Downtown Tempe Community</i>	6/6/2011	Fats, Oils, and Grease Disposal	3	FOG presentation including MS4 impacts	Downtown Tempe Businesses
<i>E-Bulletin (2Q2011E-bulletin)</i>	Jun-11	MSGP permit & Tempe stormwater program info	115	115 Environmental Bulletins via e-mail.	Commercial, Industrial Businesses
			46,473	Estimated annual total of people or businesses reached through 12 awareness and outreach activities.	

STORM key accomplishments for fiscal year 2010-2011 include the following:

- Continue to use “Only Rain in the Storm Drain” motto, expressing a common regional theme that is easily understood and clearly communicates the essential message of keeping pollutants out of the storm drain system.



- Updated the web site located at www.azstorm.org , which relays our message in both English and Spanish. Details of web site activity are included in the FY 2011 STORM annual report on pages five and six, which shows a total number of 5729 hits on the site during the period from July 2010 through June 2011. The website was redesigned to update information and the look of the website.
- Movie Theater Campaign - STORM's FY 2011 movie theater campaign began November 26, 2010, and ran for six (6) weeks to correspond to the winter rain season. The movie theater campaign was shown at seven (7) theaters throughout the Phoenix metropolitan area, showing on 154 movie screens. Based upon historical movie admission rates, it is estimated that the campaign was shown to approximately 1,100,000 people. STORM expended \$10,000 for the movie theater campaign in FY 2011.
- Radio Campaigns - STORM conducted one radio ad campaign during FY 2011. The campaign aired a PSA regarding the importance of used oil recycling to prevent pollution from improper disposal of used oil. The PSA was aired in both English and Spanish on nine (9) radio stations during the time period of November 29, 2010 – January 15, 2011. The PSA audience, age 12 and above, was estimated at 3,168,300. The cost of the campaign was \$9,978.26. The PSAs are posted on the website at <http://www.azstorm.org/radio-psa/>.
- Maricopa County Stormwater Construction Seminar - On June 1, 2011, STORM and the Arizona Chapter of the Associated General Contractors of America held the 1st Annual Maricopa County Stormwater Construction Seminar. The Arizona Department of Transportation provided the seminar room at no charge and STORM provided refreshments. This free seminar featured presentations by member municipalities, as well as county and state agency representatives, regarding the AZPDES regulatory requirements unique to construction sites within Maricopa County. The seminar had approximately 80 attendees.
- Display boards continue to be used at community outreach events to convey the difference between the sanitary sewer and storm sewer systems to the public, including suggestions for avoiding adding pollutants to the stormwater system. These display boards were utilized by several STORM members at various events listed in Attachment B of the FY 2011 STORM annual report. Table banners were created during this fiscal year to depict the STORM name, logo, and website.
- Promotional Items - Various promotional items have been previously developed with STORM's logo, website address, and/or mission statement. These are made available to members to distribute at local events. STORM expended \$19,299.39 on promotional items for FY 2011. Additionally, STORM had some promotional



items left over from FY 2010 that were used during this fiscal year. STORM distributed magnetic clips, bags-on-board for pet waste, silicone bracelets, and magnets which included the STORM logo, slogan, and website information for use as promotional giveaways. Two brochures were distributed to convey information for preventing stormwater pollution, "Stormwater Pollution Prevention Begins with You!" and "Stormwater Pollution Prevention for Construction Sites."

The FY 2011 STORM annual report can be found in **Attachment B**.

B. Public Involvement Activities Including Outreach

Adopt-A-Park and Adopt-A-Street

Tempe has added city Adopt-A-Park and Adopt-A-Street programs as a component of the public involvement and participation portion of the city's stormwater program. This addition has allowed for a more detailed and accurate assessment of proactive pollutant prevention and elimination activities. In addition to the aesthetic value of these programs, the public and community service workers have helped Tempe to remove an estimated 1,719 bags of trash and debris that could have otherwise ended up in the MS4 system and/or subsequently a water of the U.S. Information on Tempe's Adopt-A-Park and Adopt-A-Street can be found at:

- <http://www.tempe.gov/parks/adoptapark/>
- <http://www.tempe.gov/tim/adoptastreet/>

Table 2 summarizes the number of events since January 2011, number of participants, and amount of trash removed.

Table 2: Summary of Adopt-A-Street and Adopt-A-Park Public Involvement and Participation

Events	Events	Volunteers or Community Service Workers Involved	Bags of Trash Removed
<i>Tempe Adopt-A-Street/Volunteer Program</i>	12	132	90
<i>Tempe Adopt-A-Park</i>	83	1245	1629
Totals	95	1377	1719



Parks

Tempe's Parks Maintenance Section continues to maintain 65 "doggy bag" dispensers at various Tempe parks. This activity specifically involves the public in the reduction of pet waste that has a potential to reach the MS4.

Communication and Public Reporting

Tempe continues to provide the public with the opportunity to participate actively in the city's stormwater program by providing avenues for the reporting of spills, discharges, or dumping within the community. Tempe continues to operate its stormwater hotline and web-reporting form for public reporting of illegal discharges to the city's storm drain system. A summary of public reporting events can be found in Section C of this report. Means of reporting are as follows:

- 480-350-2811
- <http://www.tempe.gov/stormwater/stormwatercomplaintform.htm>

In addition, Tempe regularly disseminates the general Environmental Services Section phone number and stormwater webpage for purposes of allowing public discussion of stormwater issues and providing copies of stormwater material and the most current SWMP. The general contact number and program information location are as follows.

- 480-350-2678
- <http://www.tempe.gov/stormwater/>

Participation is encouraged during outreach events and public awareness activities, and contact information is provided with all outreach materials. See Section A of this report for detailed outreach events.

Household Products Collection Center

Tempe continues to operate its Household Products Collection Center (HPCC), which opened in 1999. The HPCC provides Tempe residents with an outlet for disposing of and recycling potentially hazardous household products. Materials commonly collected at the facility include batteries, used motor oil, paint, antifreeze, pesticides, herbicides, and solvents. Materials are either recycled or disposed of in accordance with local, state, and federal regulations. Usable materials, such as paint, are processed, packaged, and made available to Tempe residents free of charge. Information on the HPCC, and on the proper handling and disposal of household waste, is available at:

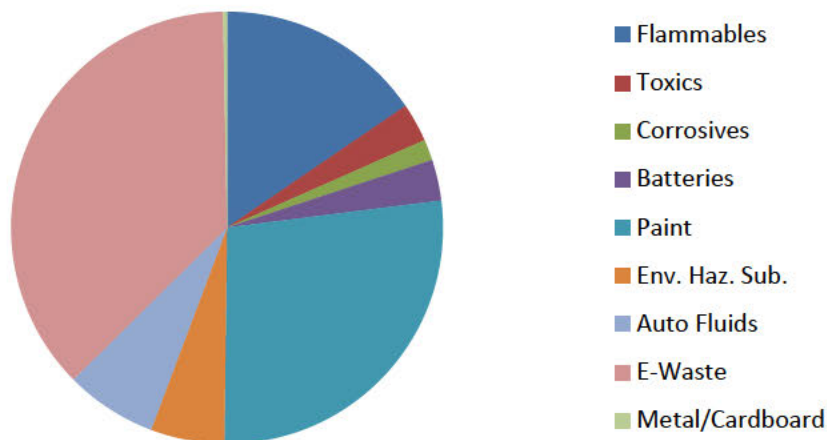
- www.tempe.gov/HHW

Table 3 summarizes HPCC events.

Table 3: Summary of HPCC Activities

Number of Days Open to the Public	Number of People that Utilized HPCC Services	Amount of Household Hazardous Waste Collected
100	5902	247,394 pounds

Below is a breakdown of waste collected, of which there was a 90% recycle rate.

Waste Collected by Category


C. Illicit Discharge Detection and Elimination (IDDE) Program Activities

Tempe's IDDE program consists of several components designed to educate, involve and solicit further participation from city employees and the public, proactively prevent illicit discharges, and detect and eliminate illicit discharges. Below is a summary of these IDDE related components.

Training

During the 2010-2011 reporting year, Tempe's Environmental Services Section successfully cross trained all Environmental Compliance Inspectors in MS4 stormwater competency. This training resulted in an increase of trained stormwater inspectors from two (2) to six (6) and a more efficient and robust stormwater inspection program. Tempe anticipates filling a current Inspector vacancy during the 2011-2012 reporting year, resulting in a total of seven (7) Inspectors trained in stormwater competency.

Stormwater IDDE training for seven (7) employees (six inspectors and one Environmental Quality Specialist) occurred on September 14-16, 2010. This training encompassed detailed IDDE-related topics and was attended by all Tempe inspectors that currently conduct IDDE inspections and enforcement.



Municipal Facility training provided to 180 Tempe employees included the identification and reporting of illicit and non-stormwater discharges. IDDE topics were discussed during these Municipal Facility training events, though are not specifically categorized as IDDE training for purposes of this report. See Section 3.K of this report for a summary of training events, number of employees trained and topics discussed. See **Attachment C** for copies of all training sign-in sheets.

These Tempe employees, many of whom work in the field, have been trained to contact Tempe's Environmental Services Section in the event that a potentially illicit discharge is identified. As a result of this training, alley maintenance crews now carry and hand out pool discharge door hangers when potentially illicit pool discharges are identified.

Outreach – Pollution Prevention

Tempe continues to implement a very comprehensive outreach program that conveys a message of pollution prevention and encourages the reporting of illicit discharges or other potential sources of stormwater pollution. For details of this program, please see Sections 3.A and 3.B of this report.

Infrastructure Inspection and Maintenance

One of Tempe's most proactive IDDE activities involves municipal stormwater infrastructure inspection and cleaning activities. These activities are divided between five (5) separate city workgroups: Environmental Services, Parks Maintenance, Streets, Water Engineering, and Utility Services. Each section maintains responsibilities for various aspects of stormwater infrastructure inspection and cleaning. Note that infrastructure is not limited to catch basins, but includes all aspects of the MS4 such as catch basins, drywells, bubbler boxes, inlet structures, outfalls, streets, conveyance pipes, retention basins, etc. Outfall inspections will be covered further in this section.

- Environmental Compliance Inspectors continue to conduct Alternative Retention Criteria Area (ARCA) catch basin inspections after large downtown events such as 4th of July festivities and the Tempe Arts Festival. See Section G of this report for ARCA description. During the 2010-2011 reporting year, three (3) ARCA area catch basin inspection events occurred. As a result, 54 catch basins were inspected, of which 15 were referred for cleaning. A numeric summary of these events can be found further in this section. Inspection forms can be found in **Attachment D**. A summary of contracted cleaning events can be found in **Attachment E**.
- Tempe's Parks Maintenance section provides routine maintenance for various parks, retention areas, common areas, open areas, and recreational areas throughout the city. During routine visits to each of these facilities, cursory inspections are conducted of stormwater infrastructure. Detailed inspections are conducted annually. During the 2010-2011 reporting year, the Tempe Parks



Maintenance section inspected 290 pieces of city stormwater infrastructure including catch basins, inlet structures, drywells, bubbler boxes, and retention basins. Of the 290 inspections, 74 components were referred for cleaning. A numeric summary of these events can be found later in this section. Inspection forms can be found in **Attachment F**. A summary of contracted cleaning events can be found in **Attachment E**.

- Tempe's Street Maintenance section is, in part, tasked with the maintenance and cleaning/sweeping of Tempe streets and various other MS4 components. In this capacity, the Streets program includes street sweeping and routine infrastructure inspections. To reduce the amount of debris entering the MS4, Tempe continues to implement an effective street sweeping program. Based upon historic sweeping activities, the following schedule provides significant debris removal at an operationally feasible frequency (adherence to this schedule varies occasionally due to unforeseen events that require staff and/or equipment reprioritization):
 - Arterial streets are swept once every two weeks.
 - Residential, Collector, and Industrial streets are swept once every month.
 - City-owned parking lots and large City facilities vary upon condition.
 - Upon request (e.g., water main breaks, emergency road repairs, trackout, special events, etc.)

During the 2010-2011 reporting year, Tempe cleaned approximately 13,440 linear miles of streets, effectively removing approximately 714.7 tons of debris. A numeric summary of these events can be found later in this section.

Streets Maintenance also conducts visual inspections of catch basins and other similar infrastructure. During the 2010-2011 reporting year, this section completed inspections of 23 catch basins over a six (6) mile span. A numeric summary of these events can be found later in this section. Inspection forms can be found in **Attachment G**.

In addition to the inspections and cleaning outlined above, two additional street programs are used to conduct cursory infrastructure inspections. Structures located on arterial roadways are inspected as part of the city's right-of-way weed control program and structures located on streets other than arterials are inspected as part of the city's street sweeping program. These inspections are not specifically documented unless further detailed component inspection or cleaning is deemed necessary.



- Tempe's Water Utilities Division, Engineering Section, currently operates one sanitary sewer CCTV crew. As a component of the MS4 program, this crew is available to conduct underground infrastructure inspections for any of the above-listed Tempe work groups. When available, this crew also conducts MS4 CCTV inspections. During the 2010-2011 reporting year, Tempe has inspected 2349.5 feet of underground MS4 conveyance. Inspection records can be found in **Attachment H**. Note that Tempe previously implemented a CCTV program that was suspended since underground infrastructure was in good shape. Most recent inspections seem to indicate similar findings. These activities are summarized below.
- Tempe's Water Utilities Division, Utility Services Section, is responsible for the operation and maintenance of Tempe's water and wastewater infrastructure. On occasion, this section is also requested to perform unique stormwater-related cleaning or maintenance activities. During the 2010-2011 reporting year, this section assisted in one cleaning event resulting in the removal of approximately one (1) ton of debris. This event is included in Table 4.

Table 4: Summary of MS4 Infrastructure Inspections and Cleaning

Location/Description	Infrastructure Inspected		Infrastructure Cleaned		Amount of Debris Removed Tons
	Number	Miles	Number	Miles	
ARCA	54	-	15	-	65.66
Parks/Common and Rec. Areas	290	-	74	-	
Streets (excluding street sweeping)	23	6	0	-	
Pipe (CCTV)	-	0.44	0	0	
Utility Services	-	-	1	-	1
Streets (including street sweeping)	-	-	-	13,440	714.70
Totals	367	6.44	90	13,440	781.36

Note: Infrastructure includes catch basins, drywells, bubbler boxes, inlet structures, streets, conveyance pipes, etc.

Call-Outs

Tempe's stormwater Permit requires that the city respond to at least 90% of all reported illicit discharges and investigate at least 80% of potential illicit discharges reported by the public. Of the 42 call-outs that Tempe's Environmental Services Section received, 36 were either directly or indirectly related to stormwater concerns. All calls were responded to and investigated. A summary of all call-outs pertaining to these reports can be found in **Attachment I**. Table 5 summarizes this response and investigation percentages.

Table 5: Summary of Potential Illicit Discharge Reports

Reports (hotline, web form, other calls)	Reports Responded To	Percent Responded To	Reports Investigated	Percent Investigated
36	36	100	36	100

Inspections – Municipal, Industrial, Commercial, Outfall

Tempe’s stormwater inspection program for municipal, industrial, and commercial facilities is an important component of the IDDE program. Aside from identifying and eliminating discharges, these inspections compel the use of stormwater BMPs, bring awareness to stormwater pollution issues, and ultimately prevent the occurrence of illicit discharges that could impact the MS4 or receiving waters. These specific programs are further summarized in Sections D and E of this report. Tempe’s outfall inspection program also serves as an important component of this program. This program is further summarized in Section H of this report.

IDDE Screening Program, Investigations, Identified Sources, and Corrective or Enforcement Actions.

Tempe’s IDDE screening program can be initiated by notifications from persons participating in any previously listed components (e.g., public notifications, field staff notifications, inspections, etc.) Regardless of source, Tempe responds to all reported illicit discharges and initiates investigation of these discharges within three (3) business days of detection or report. If the discharge is found to be illicit, corrective action, including enforcement mechanisms, are used to eliminate illicit discharge. Identified wastewater discharges, such as raw sewage or grease, are immediately investigated and eliminated as soon as possible. Discharges found to not be a significant source of pollutants or that are permitted under an ADEQ AZPDES permit are not investigated each time they are identified (e.g., irrigation tail-water, permitted de minimis discharges).

If the source of an illicit discharge cannot be identified through physical investigations and field screening, grab samples will be collected at the outfall or field location where the prohibited discharge occurred and analyzed at a state certified lab. Note that during the 2010-2011 reporting year, all discharges were identified through physical investigations and field screening. Analytical laboratory services were not warranted.

As a result of 77 outfall inspections, 76 industrial/commercial inspections, 86 restaurant inspections, and 36 call-outs, Tempe Environmental Compliance Inspectors identified the following.

- Three (3) outfall discharges were determined to not be a source of pollutants. (Further information can be found in Section H of this report)



- Seven (7) potential or actual illicit discharges to the MS4 from industrial/commercial sources resulted in the issuance of seven (7) official warning letters. See **Attachment J**.
- One (1) illicit discharge to the MS4 from a commercial source resulted in the issuance of a Notice of Violation. See **Attachment J**.

Table 6 summarizes of Environmental Compliance Inspector investigation and inspection activities.

Table 6: Environmental Compliance Inspector Inspection Summary

Inspection Type	Number of Inspections	Official Findings/Enforcement
<i>Outfalls</i>	77	<ul style="list-style-type: none">• Three (3) dry weather flows (determined to not be a significant source of pollutants.)• Seven (7) Warning Letters• One (1) Notice of Violation• 15 Catch basin cleanings
<i>Industrial/Commercial (non-restaurant)</i>	76	
<i>Restaurant</i>	86	
<i>Call-Out</i>	36	
<i>ARCA Catch Basins</i>	54	
Total	328	

D. Municipal Facilities

Inventory

In advance of the Permit-required timeline of three years, Tempe has completed the identification and inventory of municipal facilities. During the 2010-2011 reporting year, Tempe has inventoried 140 facilities. A list of facilities can be found in **Attachment K** and a map of general facility location can be found in **Attachment L**. This inventory is subject to change upon internal annual reviews.

Inspections

Consistent with Tempe's Municipal Facility Stormwater Inspection Program, Tempe has inspected and prioritized a total of 29 sites. One site required follow-up action and no sites resulted in significant findings. All inspection reports can be found in **Attachment M**. Table 7 summarizes of inspection progress.

Table 7: Summary of Municipal Facility Inspections

Department/Division	Number of Facilities	Number of Facilities Inspected	Number of Facilities Re-inspected	Percent Complete
<i>PW-Water</i>	30	27	1	90
<i>Fire</i>	10	0	0	0
<i>Parks</i>	65	2	0	3
<i>Comm Serv</i>	13	0	0	0
<i>Transportation</i>	4	0	0	0
<i>Police</i>	6	0	0	0
<i>PW-Other</i>	3	0	0	0
<i>Miscellaneous</i>	9	0	0	0
Totals	140	29	1	21

Results

Results and/or activities and control measures implemented as a result of these 29 inspections are as follows:

- All inspected facilities that maintain any single container exceeding five (5) gallons of a hazardous material now post or maintain documentation of practices and procedures designed to prevent and respond to spills that may come into contact with stormwater. This document can be found in **Attachment N**. These practices are in addition to Tempe's Hazardous Waste Management Plan (HWMP), which requires the proper handling, storage, transport, and disposal of hazardous wastes associated with municipal operations and facilities.
- During initial facility inspections, basic stormwater awareness practices are discussed with facility representatives. This discussion is separate and in addition to formalized stormwater training.
- The one facility requiring a re-inspection implemented new secondary containment inspection practices and light machinery storage practices to reduce the potential for stormwater exposure.
- An additional facility will be re-inspected after October 2011 when site construction is complete. Stormwater BMPs have been incorporated into the design of this facility.

Chemical Handling, Storage, Disposal Practices, and Spills

Several Permit sections require various plans, documents, or procedures ensuring the proper handling, storage and disposal of chemicals and response to chemical spills. Tempe's efforts in this area involve several city sections, all of which serve an important role related to the protection of human life and the environment. Below is a summary of activities performed by various city sections.



- **Environmental Services**

Tempe's Environmental Services Section is responsible for all initial facility stormwater inspections required by the Permit. In part, the purpose of these inspections is to ensure proper housekeeping and the implementation of stormwater BMPs. During these inspections, facility chemical storage practices are reviewed from an environmental protection perspective. Facilities at which any single container exceeding five (5) gallons of a hazardous material is stored are required to post or maintain documentation of practices and procedures designed to prevent and respond to spills that may come into contact with stormwater. This document was designed to provide a simple, easy-to-read message of proper chemical handling, storage, disposal, and spill response practices and was developed by representatives from Environmental Services, Risk Management, and HPCC. This document can be found in **Attachment N**.

Tempe's Environmental Services Section is also responsible for city-wide MS4 stormwater training. This training includes the topics of proper chemical handling, storage, disposal, and spill response practices. See Section K for a summary of training events.

- **HPCC**

The HPCC provides various levels of support for all aspects of chemical handling, storage, disposal, and spill response practices. In large part, the HPCC is a city-wide liaison for the acquisition of necessary spill prevention and response equipment and Tempe's in-house mechanism for the disposal of chemical wastes. The HPCC also maintains Tempe's Hazardous Waste Management Plan (HWMP). The HWMP was updated on May 11, 2011, to include practices to minimize exposure of hazardous waste to precipitation. This review was conducted by Tempe's Environmental Health and Safety Supervisor and an Environmental Quality Specialist (EQS) from Environmental Services. The HWMP can be found in **Attachment O**.

- **Risk Management**

Risk Management provides support, guidance, and training in areas related to chemical handling, storage, and spill response. All city-wide safety programs are managed by this section and include the City of Tempe Hazard Communication Program, which was developed to inform employees of their "right to know" about all physical and health hazards associated with handling materials that contain hazardous ingredients.



- **Fire Department**

The Tempe Fire Department provides emergency response services for incidents involving hazardous materials. Stormwater protection is a critical part of emergency response procedures and is included as part of the City's emergency response training. The Tempe Fire Department's Hazardous Materials Policy 208.01 addresses containment of hazardous materials as a critical component of spill response procedures.

Pesticides, Herbicides, and Fertilizers

- Tempe has significantly reduced the amount of pesticides and herbicides used by employing integrated pest management practices. However, when pesticide use is needed, established pesticide application best management practices are implemented. These practices were developed in conjunction with Tempe certified applicators and Tempe's Environmental Services Section. A copy of this plan can be found in **Attachment P**.
- Tempe's Parks Maintenance Section applies fertilizer to city parks during the growing season using calibrated broadcast spreaders. Application rates are based on recommendations from the University of Arizona Cooperative Extension Turf Grass Research Facility. Soil and tissue analyses are periodically used to confirm or modify application rates. Currently, some parks and the city golf courses can inject liquid fertilizers through programmable irrigation controllers. When fertilizer is applied in this manner, it is done in small applications over several days to reduce or eliminate chemical run-off. In some turf areas, aeration methods are used which allow for better infiltration of water, fertilizers, chemicals, and soil amendments. In addition, all City of Tempe pesticide applicators are licensed through the Arizona Office of Pest Management, and are required to complete continuing education units (CEUs) every year which include training on best management practices.

MSGP (and other AZPDES) Tracking

Two Tempe owned and/or operated facilities currently maintain coverage under the MSGP and two additional facilities maintain NECs. No other facilities have been identified as requiring permitting under the MSGP. Tempe identifies facility environmental regulatory requirements when operations at an existing facility change or new facilities are constructed. Tracking of MSGP and various other ADEQ and EPA regulatory requirements occurs electronically through a compliance management solution known as Intalex (<http://www.intalex.com/>).

Inventories and Mapping

Tempe's Permit contains a series of inventory and mapping requirements with various completion dates ranging from the submittal date of this report to the fourth year



annual report. Table 8 summarizes Permit mapping requirements that have been met, the reporting year in which they were completed, and the map title. These maps were created with existing mapping capability and will be updated to reflect changes and permit requirements were needed. A status of “fourth year annual report” mapping capability is provided further in this section. Any modified maps will be provided to ADEQ with subsequent annual reports. All maps can be found in **Attachment L**. Note that all other inventories are addressed in their respective reporting sections.

Table 8: Summary of Mapping Status

Map Description	Reporting Year Map Completed	Map Name
<i>Identification and mapping of waters of the U.S. (including Tempe area canals) that may receive discharges from the MS4</i>	2010-2011	Tempe MS4 Surface Waters
<i>An up-to-date map or map(s) showing MS4 boundaries.</i>	2010-2011	All Maps
<i>An up-to-date map or map(s) showing locations where Tempe’s storm sewer discharges to waters of the U.S.</i>	2010-2011	Tempe MS4 Monitoring and Discharge Locations, Tempe MS4 Drainage System
<i>An up-to-date map or map(s) showing wet weather stormwater monitoring location(s) and the associated drainage basins. (Including acreage and land uses).</i>	2010-2011	KP-01, SR-05, SR-08, TD-01, TD-03 Stormwater Monitoring Location Fact Sheets
<i>Map of all major outfalls and other field screening points.</i>	2010-2011	Tempe MS4 Major Outfalls
<i>Map of facilities owned or operated by the MS4 that have the potential to discharge pollutants to waters of the U.S.</i>	2010-2011	Tempe MS4 Municipal Facilities
<i>An up-to date drainage system map.</i>	2010-2011	Tempe MS4 Drainage System
<i>Drainage Basins</i>	2008-2009	Tempe MS4 Stormwater Basins
ARCA	2007-2008	Tempe ARCA

- **Storm Drain Inlets and Catch Basins**

Point layer showing the location of all storm drain inlets and catch basins.
Status: Tempe’s mapping system currently maintains this capability and is part of the mapping maintenance processes. If modifications are needed by the 4th year annual report, they are expected to be minimal alterations or adjustments.



- **Outfalls**

- a) Point layer showing the location of all outfalls.
- b) Polygon layer showing the drainage area associated with each of the monitored outfalls identified in Table 1 of the Permit.

Status: 90% complete. There are a small number of outfalls that were outfalls that were specifically mapped for this annual report. Some fine tuning is needed to make this into an active GIS mapping maintenance process as well as some business triggers when outfalls are created, altered or removed. Expected completion date is June 30th, 2013.

- **Detention/Retention Basins**

Point or polygon layer showing the locations of all identified city-owned retention and detention basins that are connected to the municipal stormwater conveyance system (i.e., that receive drainage from or discharge to a stormwater conveyance).

Status: 90% complete. A redesigned system that is part of the mapping maintenance process will need to be developed. Expected completion date is June 30th, 2013.

- **Jurisdictional MS4 Boundary**

Line or polygon layer showing the jurisdictional boundaries of the MS4, including any new land annexations during the Permit term.

Status: Tempe's mapping system currently maintains this capability and is part of the mapping maintenance processes. If modifications are needed by the 4th year annual report, they are expected to be minimal alterations or adjustments.

Tempe is also required to complete a study that evaluates the cost, method, and time it will take to complete future potential mapping requirements outlined in Appendix A, Section IV.E (second measurable goal). Results of this evaluation will be provided no later than the 4th year annual report.

E. Industrial Facilities

Status of identification and Inventory of Industrial/Commercial Facilities

The City of Tempe Environmental Services Section has developed an inventory of all industrial and commercial facilities within the city that are subject to inspection under Tempe's MS4 Permit. This inventory was developed using the following Permit-required criteria:

- Industrial facilities identified in 40 CFR 122.26(d)(2)(iv)(C);
- Industrial facilities subject to MSGP requirements, including those facilities that have submitted a no exposure certification; and



- Other industrial and/or commercial sources (or categories of sources) Tempe determines are contributing a significant pollutant load to the MS4.

The inventory for SARA Title III and MSGP Facilities was developed by acquiring information from the following sources (See **Attachment Q** for listing of these facilities):

- Arizona State Emergency Response Commission – (Tempe facilities subject to SARA Title III) – 361 Facilities
- InfoGroup, Government Division – ReferenceUSAGov Data Base (Tempe facilities subject to MSGP as identified in 40 CFR 122.26(b)(14)(i,ii,iv-ix, xi) – 525 Facilities

Other sources used to identify industrial and/or commercial sources (or categories of sources) Tempe determines are contributing a substantial pollutant loading to the MS4 are:

- Utility Billing Records
- Multi-media inspections conducted by Environmental Compliance Inspectors

The inventory of SARA Title III and MSGP facilities is duplicative in some respects and is inclusive of facilities within Tempe that are subject to industrial pretreatment permitting requirements. Industrial pretreatment facilities are prioritized for annual stormwater inspections. In addition to the above listed facilities, Tempe has added restaurants as a “category of sources” with a potential to impact the MS4. As such, several restaurants have been inspected for stormwater compliance.

Overview of Inspection Findings and Significant Findings

Tempe Environmental Compliance Inspectors conducted 76 industrial/commercial inspections at facilities subject to SARA Title III, MSGP, and Industrial Pretreatment requirements; and 86 restaurant inspections. Due to new stormwater program implementation, restaurant inspection forms did not specify stormwater inspection criteria until June 2010 inspections, though stormwater assessments were conducted during all 86 inspections. No significant findings were observed during the course of these inspections. Industrial/commercial inspection forms can be found in **Attachment R**, and restaurant inspections can be found in **Attachment S**.

Tempe considers the following factors to have contributed to the lack of significant stormwater violations:

- Many of the inspected facilities subject to SARA requirements maintained chemicals indoors, where stormwater exposure was not a concern.



- Many of the industrial facilities inspected were pre-treatment program facilities that have been inspected for Tempe stormwater compliance on numerous occasions.

Corrective and Enforcement Actions Needed & Taken in Response to Inspections

No corrective or enforcement actions were needed or taken in response to routine industrial or commercial inspections. Please see summary of corrective and enforcement actions for various other inspections in Section C.IV.

Note that during these inspections, Tempe did identify seven (7) facilities that may have been eligible for coverage under the MSGP but had not obtained coverage or filed for a NEC. Five (5) of these facilities subsequently reported to Tempe that they had obtained the necessary coverage or certification. As a result, Tempe provided ADEQ with information for two (2) potential non-filers on August 5, 2011. See **Attachment T** for copies of non-filer notifications.

F. Construction Program Activities

Status

Tempe's stormwater construction program is managed by the Public Works Engineering Division and encompasses plan review, inventory, prioritization, inspection, and enforcement of private and Capital Improvement Project (CIP) construction projects that will result in a land disturbance of one (1) acre or more, and those that disturb less than one (1) acre but are part of a larger common plan of development. For the 2010-2011 reporting period, Tempe has reviewed and inventoried 100% of all construction projects meeting the land disturbance criteria. As of June 30, 2011, Tempe has identified six (6) private and three (3) CIP projects requiring review inventory, prioritization, and inspection. Project inventory and inspection documents can be found in **Attachment U**.

Inspection Findings

Tempe has inspected 100% of all qualifying construction sites. Of the nine (9) sites inspected, four sites were inactive. All inspections found compliance with Tempe ordinances and no significant findings were observed. Project inventory and inspection documents can be found in **Attachment U**.

Corrective Action and Enforcement

No corrective or enforcement actions were needed or taken in response to inspections identified above. No non-filers were identified. The Tempe Engineering Division requires proof of ADEQ's CGP AZPDES NOI Authorization from the project's owner or developer prior to issuance of a grading and drainage permit and therefore does not anticipate the identification of non-filers.



Training

Stormwater training for employees directly involved with construction activities received training on June 27, 2011. See Section 3.K of this report for a summary of training events, number of employees trained, and topics discussed.

G. Post-Construction Controls

Summary of Controls

Consistent with EPA's Low Impact Development (LID) recommendations and urban stormwater Best Management Practices (BMPs), Tempe's most effective post-construction control remains on-site retention as implemented by Tempe's Stormwater Retention Ordinance - Chapter 12, Article IV, of the Tempe City Code. See **Attachment V** for a copy of this ordinance. This ordinance is an effective control measure by providing containment for much of the rainfall in Tempe, and accordingly limiting discharges of pollutants to waters of the United States. Tempe's Stormwater Retention Ordinance has been in effect since 1967 and was modified in April 2004 to accommodate more dense development in and around downtown Tempe, an area designated as the Alternative Retention Criteria Area (ARCA). See **Attachment L** for a copy of an ARCA map. Outside the ARCA, all new development or substantial improvements to existing developments must provide storage of sufficient volume (on-site retention) to hold the runoff from the 100-year design storm. Inside the ARCA, new development or substantial improvements to existing developments must provide on-site retention for the two-year design storm. The two-year requirement may be waived within the ARCA subject to approval by the City of Tempe Public Works Director if equivalent best management practices for on-site pollutant removal are implemented.

New for the 2010-2011 reporting period, Tempe has formalized the post-construction inspection program. The new inspection program now requires a post-construction control inspection within twelve (12) months after completion of construction.

Overview of Program

A post-construction inspection will be conducted on 100% of all permitted residential, commercial, and CIP projects that will result in a land disturbance of one (1) acre or more, and those that disturb less than one (1) acre but are part of a larger common plan of development. This post-construction inspection will be part of the warranty period inspection and will occur within twelve (12) months after completion of construction. The inspection provides an opportunity to identify corrective action to be implemented by the developer or responsible contractor for a variety of items, including stormwater and/or drainage controls. Stormwater control measures can utilize one feature or a combination of several features. These control measures will be examined during post-construction site inspections for which an ADEQ NOI is required.



Corrective Action and Enforcement

As of June 30, 2011, only three qualifying construction sites have completed construction. None of these sites have undergone post-construction inspections due to relatively recent construction completion. Since no post-construction inspections have occurred, no corrective or enforcement actions were needed or taken during this reporting period.

New or Revised Post-Construction Requirements

Since Tempe's last annual report, there have been no new or revised post-construction requirements related to permits the city issues. Tempe will not issue a grading permit, building permit, or a certificate of occupancy to an owner/developer until notification from the City Engineer is received indicating that a drainage plan and on-site grading and drainage improvements are in compliance with Chapter 12, Article IV, of the Tempe City Code. In addition, the City Engineer will not issue this notification unless a project provides the required retention or unless the project is in the ARCA and the Public Works Deputy Director has approved alternative on-site pollutant removal BMPs. Sections 12-71 and 12-73 of Tempe's on-site retention ordinances contain the administrative requirements that ensure implementation of this program.

H. Outfall Inspection Program

Staff training

As identified in Section C of this report, during the 2010-2011 reporting year, Tempe's Environmental Services Section cross trained all Environmental Compliance Inspectors in stormwater competency. This two-day training event included outfall inspection procedures. Six Environmental Compliance Inspectors and one Environmental Quality Specialist attended.

Outfall inventory

Tempe has identified 41 major outfalls as defined by 40 CFR 122.26. A list identifying the outfall name, size, location (latitude/longitude), receiving water, and priority status can be found in **Attachment W**. A map of all Tempe outfalls can be found in **Attachment L**. The number of major outfalls is subject to change based upon system changes or the identification of previously unidentified outfalls.

Of these 41 major outfalls, 15 are identified as priority outfalls. This priority is based upon receiving water, history of illicit discharges or non-stormwater flow over the last five years, and any other outfall that is identified as a priority by the city. The number of priority outfalls is subject to change based upon changes in receiving water designation, detection of illicit discharges that have not been eliminated or shown to be a significant



source of pollutants, elimination of illicit discharges or confirmation that non-stormwater flows do not contain a significant source of pollutants, or other factors.

Inspection Tracking System

All major outfalls are inspected annually, and all priority outfalls are inspected semi-annually. If prohibited discharges are identified, more frequent quarterly inspections may be implemented. Each Environmental Compliance Inspector is assigned designated outfalls and is responsible for inspections at the required frequencies. Once inspections are completed, field data forms are provided to the Environmental Compliance Supervisor for review. Upon review completion, all forms are scanned, entered into Tempe's document tracking system, and separately provided to an Environmental Quality Specialist for MS4 Permit tracking and reporting.

Inspection and Screening Procedures

Outfall inspections are conducted utilizing standard field screening procedures and are typically completed when rainfall, temperature, and moisture are lowest but may be conducted at any time in dry weather conditions.

For each outfall or field screening point, the following information is recorded on an individual screening log:

- **General Information**

1. Date and Time of Inspection
2. Name of Inspector
3. Outfall Location/Description/Condition
 - a. Outfall ID and description (MH, channel, outfall, etc.)
 - b. Location description if not an outfall (GPS Coordinates)
 - c. Structural integrity of MS4 component
4. Time since last measurable rain event and approximate amount (> or < 72 Hours)
5. Watershed Use (industrial, commercial, residential, etc.)
6. Estimated Flow Rate (if flow exists)
7. If flow exists, determine if flow has already been shown not to be illicit or a significant source of pollutants.
 - a. If yes, document finding (i.e., tail water, TTL bypass, dechlorinated pool backwash, etc.), conduct any field screening the inspector feels may be relevant and complete inspection report.
 - b. If no, continue with full analysis of physical and chemical observations.

○ **Physical/Chemical Observations**

If further screening is needed based upon General Information findings, the parameters in Table 9 will be observed or field tested and documented.

Table 9

Parameter/ Analyte	Method	Trigger
Color	Visual	"Off-Color"
Odor	Visual	Chemical, gas, or sulphur
Clarity	Visual or Field	Highly Turbid
Floatables/Oil	Visual	Presence of solid or liquid floatables or sheen
Stains/Deposits	Visual	Presence
Biological Growth	Visual	Excessive growth or dead
Temperature	Field	Hot or cold compared to ambient
pH	Field	< 6.5 or >9 S.U.
Total Chlorine	Field	>20 ppb, >4 ppm, depending on SWQS
Copper	Field	Presence
Phenol	Field	Presence
Detergents	Field	Presence

Any flow for which the discharge is not known or at least one analytical trigger is exceeded must be screened again within a 24-hour period with a minimum period of four hours between samples.

- If upon the second screening the flow remains or the analytical trigger is still exceeded, a source identification investigation will be initiated.
- If upon the second screening the flow is absent and the analytical trigger is no longer exceeded, a screening follow-up will occur at the same location within three (3) months. If the three month follow-up screening does not detect flow or a trigger exceedance, routine screenings at this location will resume. If the month follow-up does indicate flow or an analytical trigger exceedance, a source identification investigation will be initiated.

Findings

During the 2010-2011 reporting year, Tempe Environmental Compliance Inspectors conducted 77 outfall inspections. Completed outfall inspection forms can be found in **Attachment X**. Of these inspections, 27 were conducted at priority outfalls. Three outfalls had dry weather flows that were screened in the field. No triggers were exceeded, and the flows were determined to not be a significant source of pollutants. An additional outfall was identified as having minimal dry weather flow (wetted pipe) but was not screened as the flow was not sufficient for sample collection. This outfall remains a priority outfall. The primary source of dry weather flows has been



determined to be irrigation tail-water and Tempe Town Lake by-pass water. No illicit discharges were identified as a result of 2010-2011 outfall inspections.

I. New or Revised Ordinances, Rules, or Policies

Revised Ordinances

Tempe has not developed new or revised existing City Code. Copies of Chapter 12, Articles IV and VI; and Chapter 19, Article IV of the Tempe City Code can be found in **Attachment T**.

Policies and SWMP

Tempe has developed numerous internal procedural and guidance documents pertaining to the implementation of Permit requirements. These documents will remain in draft form until full development and approval of the SWMP.

Enforcement Response Plan

Tempe has begun drafting a new Enforcement Response Plan (ERP) as required by the Permit. A copy of this plan will be provided to ADEQ upon completion.

J. Fiscal Expenditures

Tempe's 2010-2011 reporting year expenditures related to implementation of the stormwater program has been approximated to be \$1,459,190. A more detailed analysis of fiscal expenditures can be found in Section 12 of this report.

K. Training Summary¹

Tempe coordinated nine (9) employee training events covering Permit-required training topics over the course of the 2010-2011 reporting period. A total of 203² employees attended these events. Note that Municipal Facility training includes the identification and reporting of illicit and non-stormwater discharges but is not specifically categorized as IDDE training since the training event primarily focuses on pollution prevention and good housekeeping. See training summary in Table 10 for specific training details.

¹ Section added by Tempe to provide a more detailed and centralized summary of training events.

² Number includes employees that may have attended more than one training event.



Table 10: Summary of Training Activities

Date(s)	Target Groups	Topic(s)	Permit Training Type	Attendees	Trainer
14-Sep through 16-Sep, 2010	<i>Environmental Compliance Inspectors, Environmental Quality Specialist</i>	Law, Industry permits, municipal permits (including IDDE), inspector protocol, construction permits, national standards, post-construction, erosion, sediment control.	IDDE, Municipal Facilities, Industrial/ Commercial, Construction/ Post-construction	7	National Stormwater Center
18-Jan-11	<i>Tempe Management, Supervisors, Environmental Quality Specialists</i>	All Tempe MS4 Permit conditions, modification and requirements	Municipal Facilities	26	Tempe Environmental Services
10-Mar-11	<i>Environmental Compliance Inspectors, Environmental Quality Specialists</i>	All Tempe MS4 Permit conditions, modification and requirements	Municipal Facilities	11	Tempe Environmental Services
17-Mar-11	<i>Water Utility Services</i>	Pollution Prevention; Tempe Code; spill management; handling, storage, and transportation of used oil & other toxic/hazardous materials; Permit requirements including identifying and reporting illicit and non-stormwater discharges and field practices.	Municipal Facilities	23	Tempe Environmental Services
22-Apr-11	<i>Parks</i>	Pollution Prevention; Tempe Code; spill management; handling, storage, and transportation of used oil & other toxic/hazardous materials; Permit requirements including identifying and reporting illicit and non-stormwater discharges and field practices.	Municipal Facilities	49	Tempe Environmental Services
28-Apr-11	<i>Solid Waste</i>	Pollution Prevention; Tempe Code; spill management; handling, storage, and transportation of used oil & other toxic/hazardous materials; Permit requirements including identifying and reporting illicit and non-stormwater discharges and field practices.	Municipal Facilities	44	Tempe Environmental Services
19-May-11	<i>Streets</i>	Pollution Prevention; Tempe Code; spill management; handling, storage, and transportation of used oil & other toxic/hazardous materials; Permit requirements including identifying and reporting illicit and non-stormwater discharges and field practices.	Municipal Facilities	27	Tempe Environmental Services
27-Jun-11	<i>Engineering - CIP</i>	Municipal construction, Erosion and Sediment Controls, Maintenance Requirements for BMPs, Municipal Ordinances Related to Stormwater and Construction, Plan Review Procedures, Grading and Drainage Design Standards, Requirements for Structural and Non-structural BMPs on Construction Sites, Inspection Procedures, Enforcement Procedures, Post-construction Stormwater Controls, Post-construction Inspection Procedures	Construction/Post-construction	8	Tempe Public Works Engineering
27-Jun-11	<i>Engineering - Private Development</i>	Private development, Erosion and Sediment Controls, Maintenance Requirements for BMPs, Municipal Ordinances Related to Stormwater and Construction, Plan Review Procedures, Grading and Drainage Design Standards, Requirements for Structural and Non-structural BMPs on Construction Sites, Inspection Procedures, Enforcement Procedures, Post-construction Stormwater Controls, Post-construction Inspection Procedures	Construction/Post-construction	8	Tempe Public Works Engineering
Total Number of Training Events:			9		
Total Number of attendees:			203		



4. Numeric Summary of Stormwater Management Program Activities

The table below provides a numeric summary of stormwater management practices and activities performed each year.

Stormwater Management Practice or Activity:	Annual Reporting Year (July 1 – June 30)				
	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014	2014 - 2015
Illicit Discharge Detection & Elimination Program					
1. Municipal Employee Training					
Number of training sessions (on non-stormwater discharges and the IDDE program)	1				
Number of employees attending training	7				
2. Spill Prevention					
Number of municipal facilities identified with hazardous materials	10				
Number of spills at municipal facilities with hazardous materials that occurred in outside areas	0				
Number of facility assessments completed (<i>identify any issues found requiring follow-up in narrative and summarize new practices to minimize exposure</i>)	29				
Date of last review of HWMP (<i>identify committee participant with stormwater expertise in narrative</i>)	5/11/2011				
3. Outfall Inspections					
Total number inspected (<i>attach or forward electronic copy of inventory or map of major outfalls and priority outfalls</i>)	77				
Number of 'priority outfalls' identified to date (<i>summarize findings and follow-up actions in narrative</i>)	15				



Environmental Services Section

Number of 'priority outfalls' inspected (summarize findings and follow-up actions in narrative)	27				
Number of dry weather flows detected	4				
Number of dry weather flows investigated	0				
Number of major outfalls sampled	3 ¹				
Number of illicit discharges identified	0				
Number of illicit discharges eliminated	0				
Amount (percentage, linear miles, etc.) of storm drain inspected	2349.5 feet ²				
Number of storm drain cross connection investigations	0				
Number of illicit connections detected	0				
Number of illicit connections eliminated	0				
Number of corrective or enforcement actions initiated within 60 days of identification	8				
Percent of cases resolved within one (1) calendar year of original enforcement action	8				
Number of illicit discharge reports received from public	36				
Percent of illicit discharge reports responded to	100				
Percent of responses initiated within three (3) business days	100				
Municipal Facilities					

¹ Field analysis was conducted on three dry weather flows which were determined to not be a significant source of pollutants. The fourth dry weather flow was a "wetted pipe" which did not allow for sample collection.

² CCTV inspections only.



Environmental Services Section

1. Employee Training					
Number of training events (dates and topics to be included in narrative)	6				
Number of staff trained	180				
2. Inventory, Map, or Database of MS4 Owned & Operated Facilities					
Total number of facilities on inventory	140				
Date identification of "higher risk" facilities completed ¹	In process				
Date prioritization of municipal facilities completed	In process				
3. Inspections					
Miles of MS4 drainage system prioritized for inspection	Footnote ²				
Miles visually inspected ³	6.44 Miles				
Number of municipal facilities inspected ⁴	29				
Number of 'higher risk' municipal facilities inspected	0				
Number of 'higher risk' municipal facilities found needing improved stormwater controls	0				
4. Infrastructure Maintenance					
Linear miles of drainage system cleaned each year (city to maintain records documenting specific street cleaning events)	13,440				
Record amount of waste collected from street and lot sweeping (reported in pounds, gallons, etc.)	714.70 Tons				

¹ Activity due date is January 3, 2013.

² Prioritization schedules are being developed in conjunction with the SWMP, which will be finalized in 2012.

³ Includes CCTV and above-ground linear inspections of the drainage system. Does not include cursory street inspections.

⁴ This numeric parameter was added by Tempe to provide a more detailed explanation of the municipal inspection program.



Environmental Services Section

Total number of catch basins ¹	367				
Number of catch basins cleaned	90				
Amount of waste collected from catch basin cleaning (tons)	67				
Industrial and Commercial Sites Not Owned by the MS4					
Number of training events for MS4 staff	1				
Number of municipal staff trained	7				
Number of industrial facilities inspected (see Appendix A, Part V.B)	76 ²				
Number of corrective or enforcement actions initiated on industrial facilities	0				
Percentage of cases resolved under the ERP within one (1) calendar year of original enforcement action	N/A				
Construction Program Activities³					
Number of training events for MS4 staff (include topics in narrative summary)	3				
Number of municipal staff trained	23				
Number of construction/grading plans submitted for review	9				
Number of construction/grading plans reviewed	9				
Number of construction sites inspected	9				
Number of corrective or enforcement actions initiated on construction facilities (identify the type of actions in narrative summary)	0				

¹ Inspected, includes other stormwater infrastructure such as drywells, bubbler boxes, inlets, etc.

² Number exceeds prorated Permit requirement and excludes restaurant inspections.

³ Includes private and CIP activities.



Environmental Services Section

Post Construction Program Activities					
Number of post-construction inspections completed	0				
Number of corrective or enforcement actions initiated for post-construction activities (identify the type of actions in narrative summary)	0				



5. Evaluation of the Stormwater Management Program

In accordance with Section 5.4 of the Permit, this section provides an evaluation of the progress and success of the stormwater management program, including an assessment of the effectiveness of stormwater management practices in reducing the discharge of pollutants to and from the municipal storm sewer system.

The issuance of Tempe's Permit came at a time of large scale municipal restructuring and downsizing due to economic conditions that ultimately required "doing more with less." Tempe took the issuance of this new Permit as an opportunity to galvanize numerous restructured workgroups around a common goal of city-wide compliance with Permit conditions. After months of inclusive goal setting and significant achievements, Tempe's stormwater program is on path to streamline various city processes, increase operational efficiencies with remaining resources, and reduce historic redundancies while meeting stormwater regulatory mandates in an economically responsible manner. Tempe's new stormwater program will be described in the SWMP which is due for completion in early 2012.

Tempe's program implementation progress has met or exceeded Permit conditions in all areas. Tempe's successes include the following:

- Equipment upgrades to four (4) monitoring stations.
- Ongoing design/construction at the fifth monitoring station.
- Program implementation city-wide.
- Implementation of a new municipal stormwater inspection program.
- Implementation of an enhanced municipal infrastructure inspection and cleaning program.
- Implementation of an enhanced industrial/commercial inspection program.
- Implementation of an enhanced construction and post-construction program.
- Implementation of new record keeping and tracking mechanisms.
- Enhanced stormwater training program.
- Enhanced public participation programs.
- Development of new laboratory stormwater field QA/QC and sampling collection procedures.
- Internal consistency pertaining to chemical handling, storage, spill response, and disposal.
- Ongoing internal development of a pollutant loading model.
- Ongoing mapping improvements.
- Updated MS4 mapping.
- Ongoing ERP development.
- Ongoing SWMP development.

Tempe can assume that implementation of many of these stormwater management practices has effectively reduced the discharge of pollutants to and from the MS4. This reduction,



however, is not quantifiable. For example, due in large part to Tempe's on-site retention policy, it cannot be assumed that all debris removed from the system or all waste collected by HPCC would have ended up in a discharge to a water of the U.S. ADEQ has requested that monitoring data be utilized to determine the effectiveness of stormwater BMPs. Tempe's historic monitoring results have not indicated large concentrations of pollutants or fluctuation in concentration based upon BMP implementation. However, while Tempe's outfall monitoring program attempts to isolate *land* uses in Tempe, individually implemented BMPs are not isolated using an outfall approach. Tempe will continue to review future analytical data in the effort to identify such correlations.

6. Stormwater Management Program Modifications

In accordance with Section 5.5 of the Permit, this section provides a description of modifications, if applicable, to the stormwater management program each year as follows:

A. Addition of New Control Measures

The City of Tempe is in the process of developing a new SWMP that is scheduled for completion in early 2012. Upon completion, the SWMP will be submitted to ADEQ for review. Any new control measures will be consistent with Permit requirements and incorporated into this plan. Since development of the new SWMP has not been completed, there are no additions of new control measures to report.

B. Addition of Temporary Control Measures

The City of Tempe is in the process of developing a new SWMP that is scheduled for completion in early 2012. There have been no temporary control measures added to the SWMP during the 2010-2011 reporting year.

C. Increase of Existing Control Measures

The City of Tempe is in the process of developing a new SWMP that is scheduled for completion in early 2012. Any increased control measures will be consistent with Permit requirements and identified in the new SWMP.

D. Replacement of Existing Control Measures

The City of Tempe is in the process of developing a new SWMP that is scheduled for completion in early 2012. Any replacement of existing control measures will be consistent with Permit requirements and identified in the new SWMP; accordingly, there are no replacements of existing control measures to report at this time.

7. Monitoring Locations

This section requires a brief description of each stormwater monitoring location, including the following information. (Subsequent annual reports will provide informational changes or updates.)

- Name and description of receiving water
- Outfall identification number
- Address or physical location of the site
- Latitude and longitude
- Size (acres) of the drainage area
- Land uses within the drainage area with an estimated percentage of each use
- Type of monitoring equipment

Note: Modifications to monitoring locations will not be implemented without a Permit modification.

Please see Outfall Fact Sheets in **Attachment L** of this report.

8. Storm Event Records

This section requires the following information:

For each monitoring location identified in Section 7.0, Table 1.0 of the Permit, summarize all measurable storm events (0.1 inch or greater) occurring in the drainage area of each monitoring location within the winter and summer wet seasons, respectively, until samples have been collected for the monitoring location. Include the date of each event, the amount of precipitation (inches) for each event, and whether a sample was collected, or if not collected, information on the conditions that prevented sampling. (Note: If unable to collect stormwater samples due to adverse climatic conditions, provide, in lieu of sampling data, a description of the conditions that prevented sampling. Adverse climatic conditions which may prevent the collection of samples include weather conditions that create dangerous conditions for personnel, such as local flooding, high winds, electrical storms, etc.)

Tempe's new stormwater Permit was issued on November 24, 2010. On December 30, 2010, Tempe appealed sampling provisions of this Permit, asserting that additional time should be allowed to upgrade sampling equipment at four (4) sampling locations and construct a new monitoring station at one (1) location. Pursuant subsequent discussions resulting from this appeal, ADEQ modified Section 7.3.3 to require Tempe to have a minimum of two (2) of the five (5) sample locations identified in Table 1 of the Permit operational and sampling enabled by June 1, 2011. The remaining sample locations are to be operational and sampling enabled by November 1, 2011. Tempe is also required to make up for stormwater sampling that could have occurred during the equipment upgrade and construction period. Any needed make-up sampling will occur during subsequent summer and winter wet seasons if two measurable storm events occur during those seasons. The total number of sampling events required by the Permit was unchanged by the appeal.



Tempe has successfully met the June 1, 2011, deadline and is on schedule to meet the November 1, 2011, deadline. All stations, with exception of TD-01, were successfully installed, data transmission tested, and operational on the dates listed below.

- KP-01 – May 18, 2011
- SR-08 – May 19, 2011
- TD-03 – May 19, 2011
- SR-05 – May 20, 2011

Under the terms of the modified Permit, Tempe has no storm event records or monitoring results to report for the new Permit.

Tempe conducted monitoring and testing as required by the previous Permit but suspended these sampling events in accordance with directions from ADEQ following the informal settlement conference arising out of Tempe's Permit appeal. Below is a summary of 2010 sampling events conducted under Tempe's previous Permit. All laboratory results can be found in **Attachment Y** of this report. Since this monitoring was collected under significantly different Permit requirements (i.e., no flow equipment, 0.2 inch rain events, up to six-hour discharge duration, etc.), which are not applicable to existing Permit conditions, ADEQ has previously indicated that information collected from these events is not representative of stormwater discharges and will not be used for ADEQ purposes. Accordingly, Tempe has not undertaken extensive review or analysis of resulting data. If ADEQ would like to see an assessment of data taken under provisions of the previous Permit, please advise.

Table 11: Summary of MS4 Sampling Events (Old Permit)

Summer				
Date	TD03	SR05	SR08	KP01
7/28/2010				X
7/29/2010		X	X	
8/8/2010			X	
8/17/2010		X		X
Winter				
Date	TD03	SR05	SR08	KP01
12/29/2010	X	X	X	X
Total Annual				
	1	3	3	3

9. Summary of Monitoring Data (By Location)

Tempe has summarized monitoring data for sampling that occurred under the previous Permit on forms prepared for the currently effective Permit. These forms provide the outfall identification number, the receiving water, designated uses, and the lowest surface water quality standards applicable to the receiving water compared to analytical results for the stormwater samples collected for each season. These forms can be found in **Attachment Z**.

Note that sampling events identified on these forms do not reflect compliance sampling events required under the existing Permit and will not be substituted as such. Tempe requests that ADEQ review these forms and verify accuracy of the SWQS identified.

Permit Section 7.5.4(1) requires Tempe to prepare standard operating procedures for all analyses conducted in the field, whether or not a procedure is established in 40 CFR 136, and provide a copy of these procedures in the first annual report. To achieve this requirement, Tempe has prepared a Field Quality Assurance Manual, which can be found in **Attachment AA**.

10. Assessment of Monitoring Data

A. Stormwater Quality

In accordance with the Permit, Section 8.8.8(11), assessment of monitoring data is required beginning with the annual report for reporting year 2011-2012. Nonetheless, compared to previous sampling events, the information collected pursuant to the previous Permit appears consistent with historic results.

B. Water Quality Standards (WQS)

Stormwater monitoring data conducted consistent with Tempe's previous Permit has been compared to SWQS for the applicable receiving water and can be found in the forms located in **Attachment Z**.

C. Exceeding a WQS

Tempe has identified two constituents exceeding the applicable SWQS. Both copper and zinc were identified as being slightly higher than the standards at one or more monitoring locations. Since this sampling was conducted under the previous Permit and not consistent with new sampling requirements, Tempe has not further evaluated this information since comparison to future data would not be relevant. Any future exceedances resulting from compliance monitoring will be evaluated and the following information will be provided:

- Sampling date
- Monitoring location (outfall identification number)
- Receiving water and water quality standard which was exceeded

- Outfall monitoring results (laboratory reports)
- A description of the circumstances that may have caused or contributed to the exceedance of an applicable water quality standard
- If a pollutant is noted at levels above the WQS at a particular monitoring location, more than 1X ('reoccurs') per wet season; describe actions taken to determine the source(s) of the pollutant per Sections 4.3 and 4.4 of the Permit. Also state any proposed follow-up actions or additional and/or revised management practices or pollution controls to prevent the discharge from causing or contributing to an exceedance of a water quality standard in the future
- A schedule for implementing the proposed follow-up, stormwater or non-stormwater management practices or pollution controls

11. Estimate of Annual Pollutant Loadings

This section requires the following information:

An estimate of the pollutant loadings each year from the municipal storm sewer system to waters of the U.S. for each constituent listed in Section 7.4 of the Permit detected by stormwater monitoring within the Permit term. Pollutant loadings and event mean concentrations may be estimated from sampling data collected at the representative monitoring locations, taking into consideration land uses and drainage areas for the outfall. Include a description of the procedures for estimating pollutant loads and concentrations, including any modeling, data analysis, and calculation methods. Compare the pollutant loadings estimated each year to previous estimates of pollutant loadings.

In accordance with the Permit, Section 8.1.1(12), Tempe is required to provide pollutant loading estimates beginning with the 2011-2012 annual report. Please note that Tempe is currently developing a new model to address this requirement.

12. Annual Expenditures

Tempe's stormwater program expenditures for the July 1, 2010 – June 30, 2011, reporting period is conservatively estimated to be \$1,459,190. Funding for the program comes from Tempe's CIP Fund and various Public Works Department funds. Further explanation of these expenditures and funding sources can be found further in this section.

The following factors were considered when developing this fiscal analysis:

- Public involvement and participation programs are not exclusively related to the stormwater program. Accordingly, stormwater expenditures in these areas were either estimated to be one half of total operational budget or time and material specific to stormwater activities.
- Most of the operational street sweeping activities are funded as a stormwater program component and is reflected as such.



- Purchase of a new street sweeper was funded largely by HURF funds and is not a recurring expenditure.
- Employee attendance at training events is not incorporated as a stormwater expenditure, though cost to develop and conduct training is considered.

Tempe's stormwater expenditures reflect an increase over the 2009-2010 reporting year. The following considerations help to explain this increase.

- Permit negotiations, comments and appeal increased administrative costs (non-recurring).
- City-wide Permit implementation and SWMP development required a significant increase in man hours (recurring for half of the 2011-2012 reporting year).
- The industrial/commercial inspection program has been significantly expanded to meet Permit requirements.
- Stormwater sampling equipment was purchased during the 2010-2011 reporting year (non-recurring).
- Accounting for other programs (construction, post-construction, streets, etc.) is now capturing a more representative financial impact.
- Purchase of a new street sweeper during the 2010-2011 reporting year (non-recurring).

Tempe Public Works Department budgets have decreased significantly due to current economic conditions. Only three stormwater component budget items were specifically increased. These are as follows:

- Funding used primarily for stormwater public participation and outreach has been increased by \$5,000.
- Tempe's permitting fee budget increased in the amount of \$10,000 due to ADEQ's new annual MS4 Permit fee.
- Funding in the amount of \$128,000 has been allocated for construction of one new monitoring station and other monitoring station safety upgrades.

Tempe is not estimating a total budget increase for the 2011-2012 reporting year; however Tempe does expect non-recurring costs identified above to offset funding required for any 2011-2012 Permit implementation needs. Tempe cannot accurately estimate the totality of budget changes and cost allocations since the new stormwater program has not been fully implemented and has not experienced a full reporting year under new Permit conditions. As indicated in Section 5 of this report, Tempe will continue to streamline various city processes and increase operational efficiencies to ensure that all stormwater regulatory mandates are met in an economically responsible manner. A full summary of this Fiscal Analysis can be found in Table 12.

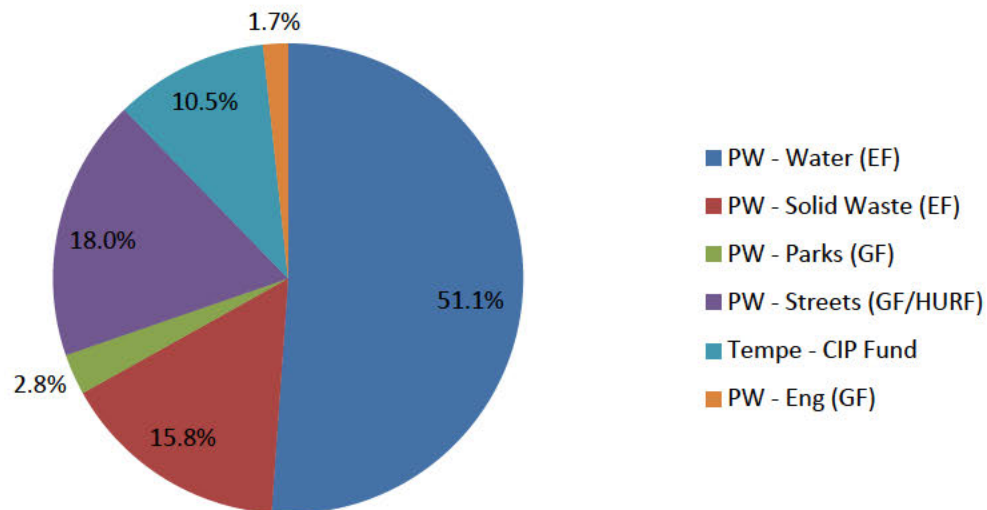
Table 12: Tempe MS4 Annual Expenditures and Fiscal Analysis Fiscal Year 2010/2011



Activity	Amount in U.S. Dollars	Funding Source(s)	Notes
Program administration (annual reporting, SWMP development, implementation, training, etc.)	\$267,176	PW - Water (EF)	Cost allocation charge for 1.75 EQS/EPS
Legal Counsel	\$7,760	PW - Water (EF)	Legal counsel - time
Public Education and Outreach		PW - Water (EF)	
Materials	\$2,610		Handouts and BMP brochure printing
Memberships (i.e. STORM)	\$2,500		STORM Membership
Public Involvement and Participation		PW - Solid Waste (EF)	
Hazardous Mat Safety/HPCC	\$230,073		1/2 Full Operational Expenditures
Adopt-A-Park/Volunteer Prgm	\$38,000	PW - Parks (GF)	Supplies & Equipment 40% time
Adopt-A-Street	\$1,400	PW - Streets (GF)	Stormwater involvement only
Training (external)	\$9,000	PW - Water (EF)	External Stormwater Training
Capital expenses for new, replaced, or repaired stormwater sewers, capital for facility replacement.	\$153,911	Tempe - CIP Fund	Repair/Replace storm sewer
Operational expenses for cleaning and/or repairing stormwater sewers.			
Cleaning (internal)	\$203	PW - Water (EF)	Internal cleaning labor
Cleaning (contract)	\$38,823	PW - Water (EF)	Contract cleanings
Engineering Capital and Private Programs (program development, construction/post construction programs)	\$24,965	PW - Eng (GF)	Time (5 engineering staff)
Stormwater GIS development, maintenance, and operations, staff time, etc.	\$11,300	PW - Water (EF)	Time (GIS staff)
Inspection and enforcement (outfalls, IDDE, industrial/commercial, etc.)	\$103,961	PW - Water (EF)	Inspections - time and equipment
Monitoring		PW - Water (EF)	
Analytical	\$8,118		Lab testing cost
Staff Time	\$25,000		Staff sampling and implementation
Equipment	\$67,342		Sampling Equipment
CCTV	\$3,600	PW - Water (EF)	Inspection - time and equipment
Parks	\$3,100	PW - Parks (GF)	Inspection - time and equipment
Streets			
Inspections	\$110	PW - Streets (GF/HURF)	Time
Street sweeping	\$198,671	PW - Water (EF)	4 FTEs - Stormwater Expenditures
Equipment	\$261,567	PW - Streets (GF/HURF)	Street sweeper purchase
Total	\$1,459,190		

A summary of funding sources can be found below.

Stormwater Program Funding Sources by Percent



13. Attachments

In an effort to save resources and paper, Tempe is providing all attachments in electronic format. In the event ADEQ feels that there is a missing attachment or would like paper copies of any attachment, please feel free to contact Tempe's stormwater representative. Table 13 summarizes the attachments.



Table 13: Summary of Report Attachments

Attachment Letter Designation	Attachment Name	Attachment Letter Designation	Attachment Name
A	OUTREACH 2010-2011	O	HWMP 2011
B	STORM 2010-2011 ANNUAL REPORT	P	COT MS4 PESTICIDE HERBICIDE PLAN
C	TRAINING 2010-2011	Q	MSGP-SARA INVENTORY 2011
D	ESS ARCA INFRASTRUCTURE INSPECTIONS	R	INDUSTRIAL COMMERCIAL INSPECTIONS 2010-2011
E	CONTRACTED STORMWATER CLEANING 2010-2011	S	RESTAURANT INSPECTIONS 2010-2011
F	PARKS AND OPEN SPACE INFRASTRUCTURE INSPECTIONS	T	NON-FILERS 2011
G	STREETS INFRASTRUCTURE INSPECTIONS 2011	U	CONSTRUCTION INVENTORY AND INSPECTION 2010-2011
H	WUD ENG CCTV REPORTS 2011	V	TEMPE CITY CODE
I	CALL-OUT SUMMARY 2010-2011	W	OUTFALL INVENTORY 2010-2011
J	ENFORCEMENT 2010-2011	X	OUTFALL INSPECTIONS 2010-2011
K	MUNICIPAL FACILITY INVENTORY 2011	Y	LAB REPORTS (OLD PERMIT) 2010
L	MAPS 2010-2011	Z	DATA SUMMARY SHEETS (OLD PERMIT) 2010
M	MUNICIPAL FACILITY INSPECTIONS 2011	AA	FIELD QUALITY ASSURANCE MANUAL
N	FACILITY CHEMICAL HANDLING AND SPILL PROCEDURES		



Arizona Department of Environmental Quality
Water Division
1110 W. Washington St.
Phoenix, AZ 85007

**MUNICIPAL SEPARATE STORM
SEWER SYSTEM (MS4)
COMPLIANCE AUDIT**

CITY OF TEMPE

AUDIT REPORT

Audit Date:
March 7–8, 2012

Report Date:
May 7, 2012

EXECUTIVE SUMMARY

On March 7-8, 2012, the Arizona Department of Environmental Quality (ADEQ) contractor, PG Environmental, LLC (hereinafter, PG), conducted an audit of the City of Tempe Municipal Separate Storm Sewer System (MS4) Program with assistance from ADEQ staff (hereinafter, collectively, the Audit Team).

This audit report identifies potential non-compliance, program deficiencies, and positive attributes and is not a formal finding of non-compliance. Program deficiencies are areas of concern for successful program implementation. Positive attributes indicate overall progress in implementing the Program.

Several elements of the City's program were particularly notable:

1. The City had an overall effective stormwater program and demonstrated strong leadership from top management.
2. Multiple Departments at the City were delegated responsibilities for implementing the stormwater program and these departments appeared to embrace their responsibilities.
3. The City used diversified routes and mechanisms for distributing educational materials and conducting outreach, including social media and collaborating with other entities.
4. The City had an established industrial pretreatment program providing a fundamental element and good foundation for a successful stormwater program.
5. The City had developed an effective illicit discharge detection and elimination (IDDE) inspection program with seven multi-program inspectors who conducted inspections in assigned areas of the City. The staff interviewed during the audit appeared knowledgeable and motivated to prohibit, remove, and respond to illicit connections and discharges in the City.
6. The City had established an effective response process and standard operating procedures for responding to reports of potential illegal discharges to the MS4.
7. The City's Household Products Collection Center was effectively managing household hazardous waste (HHW) to ensure proper handling and disposal and further prevent stormwater pollution.
8. The City had established a food industry inspection program to ensure proper management of fat, oil, and grease (FOG) by restaurants.
9. The City's Engineering Department was actively involved in plan review and stormwater pollution prevention plan (SWPPP) adequacy for Capital Improvement Program (CIP) projects.
10. The City demonstrated effective use of BMPs for erosion and sediment control on a CIP project visited by the Audit Team.
11. The City's requirement of on-site retention for a 100-year storm event is an effective approach for stormwater pollution prevention.

The following potential non-compliance and program deficiencies are considered the most significant and are further discussed within the report:

1. The City had not identified appropriate triggers for dry weather screening as part of the IDDE program.
2. The City had not fully developed ranking criteria for municipal owned facilities based on the potential to cause a substantial pollutant load.
3. Improper pollution prevention practices were noted during site visits at municipal facilities.
4. Inadequate and inappropriate use of BMPs to effectively control potential stormwater pollutants was observed at private construction projects.

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1.0 INTRODUCTION

On March 7-8, 2012, the Arizona Department of Environmental Quality (ADEQ) contractor, PG Environmental, LLC, (hereinafter, PG) conducted an audit of the City of Tempe Municipal Separate Storm Sewer System (MS4) Program with assistance from ADEQ staff (hereinafter, collectively, the Audit Team).

1.1 Permit and Stormwater Management Plan

Discharges from the City of Tempe (hereafter, the City or Permittee) MS4 are regulated under the provisions of the Arizona Pollutant Discharge Elimination System program (Arizona Revised Statutes, Title 49, Chapter 2, Article 3.1 and Arizona Administrative Code, Title 18, Chapter 9, Articles 9 and amendments thereto), Permit No. AZS00005-2010, *Arizona Pollutant Discharge Elimination System Authorization to Discharge Stormwater from a Municipal Separate Storm Sewer System (MS4s) to Waters of the United States*, (hereinafter, the Permit), issued January 3, 2011. Permit modifications became effective on June 3, 2011, and the Permit is set to expire on January 2, 2016.

The Permit authorizes the City to discharge stormwater runoff and certain non-stormwater discharges from its Medium MS4 to waters of the United States, under the Permit terms and conditions. Section 5 of the Permit requires the City to continue to implement and maintain a Stormwater Management Program designed to reduce to the maximum extent practicable (MEP) pollutant discharges to and from the MS4 that is owned or operated by the City.

Pursuant to this requirement, the City completed a Stormwater Management Plan (SWMP), dated January 2012. As indicated in the Introduction (Section 2.0) of the City's SWMP, the current SWMP includes previously proposed management plans and outlines the major programs and policies developed and implemented by the City to comply with the Permit. The City was in Permit Year two at the time of the audit.

1.2 Purpose of Audit

The purpose of the audit was to obtain information that will assist ADEQ in assessing the City's compliance with the requirements of the Permit and associated SWMP, as well as the implementation status of the City's SWMP. The audit schedule is presented as Appendix A. The Exhibit Log and Photograph Log are provided as Appendices B and C, respectively. Copies of the Permit, SWMP, and 2010–2011 Annual Report (Permit Year 1) are included as Appendices D, E, and F, respectively.

1.3 Program Areas Evaluated

The audit included an evaluation of the Permittee's compliance with the following Program Activities included in the Permit:

- 1 Public Education and Outreach
- 2 Public Involvement
- 3 Illicit Discharge Detection and Elimination
- 4 Municipal Facility Pollution Prevention, Good Housekeeping Practices and Activities
- 5 Industrial and Commercial Facilities
- 6 Construction Sites
- 7 Post-Construction

No potential non-compliance or deficiencies were noted for Program Activities 1, 2, 5, and 7 during the audit, therefore, no further discussion of these programs is included in this report. Observations regarding the City's implementation of Program Activities 3, 4, and 6 have been included in this report in sections 2.1, 2.2, and 2.3 respectively.

1.4 Audit Process

The Audit Team obtained its information through a series of interviews with representatives from the City's Public Works Department, along with a series of site visits, record reviews, and field verification activities. It should be noted that this audit report does not attempt to comprehensively describe all aspects of the City's SWMP, fully document all lines of questioning conducted during personnel interviews, or document all in-field verification activities conducted during site visits.

Representatives from the City of Tempe, ADEQ, and PG attended the opening meeting held at the Public Works Department. A sign in sheet from that meeting is presented in Appendix B, Exhibit 1. The primary representatives involved in the audit were the following:

City of Tempe MS4 Audit: March 7–8, 2012	
Public Works	David E. McNeil, Environmental Services Manager Jeremy Mikus, Environmental Program Supervisor Michael Golden, Environmental Compliance Supervisor Eric W. Staedicke, Environmental Quality Specialist Tamara Bednarik, Environmental Quality Specialist Isaac A. Chavira, Transportation Maintenance Manager David Tavares, Environmental Health and Safety Manager
Arizona Department of Environmental Quality	Kailash Bhatt, Manager, Water Quality Industrial Field Services Unit, Phoenix Office Sherri L. Zendri, Regional Compliance Manager, Southern Regional Office John E. Eyre, P.E., Environmental Engineer/Compliance Officer
ADEQ Contractors	Wes Ganter, PG Environmental, LLC Marleina Overton, PG Environmental, LLC

2.0 PROGRAM EVALUATION RESULTS

This audit report identifies potential non-compliance, program deficiencies, and positive attributes and is not a formal finding of violation. Program deficiencies are areas of concern for successful program implementation. Positive attributes indicate a permittee's overall progress in implementing the SWMP. The Audit Team documented only positive attributes that were innovative (beyond minimum requirements). Some areas were identified to be simply adequate; that is, neither particularly deficient nor innovative.

A request for records was submitted to the City prior to the audit on February 23, 2012 (see Appendix B, Exhibit 2). During the audit, the Audit Team obtained documentation and other supporting evidence regarding compliance with the Permit and associated SWMP. The SWMP contains citations to the Permit, BMP requirements, objectives, implementation timetable, and measurable goals. Referenced documentation used as supporting evidence is provided in Appendix B, and photo documentation is provided in Appendix C.

2.1 Illicit Discharge Detection and Elimination

Appendix A, Part III, Illicit Discharge Detection and Elimination (IDDE) of the Permit requires the City to detail the components of the IDDE program in the SWMP and includes specific requirements to achieve the measurable goals listed in Sections A-G. Observations regarding this program area were made during the audit and are included in this section.

During the audit, the Audit Team was given the opportunity to meet with one of the seven City inspectors whose responsibilities included identifying and eliminating illicit discharges and connections to the MS4. It was apparent that the inspector was knowledgeable and had a good understanding of the responsibilities related to the IDDE program.

Positive Attribute:

2.1.1 The City had effectively leveraged its existing industrial pretreatment program to aid in the development and implementation of the MS4 Program. The City's established industrial pretreatment program was providing a good foundation for a successful stormwater management. Specific attributes included the use of the Enforcement Response Plan, a willingness to enforce local ordinance, and inspection and monitoring procedures. Additionally, the City used seven multi-program inspectors to conduct IDDE inspections in assigned areas of the City. These inspectors performed scheduled and unannounced inspections and conducted drive-bys within their service areas. The inspection staff interviewed during the audit appeared knowledgeable and motivated to prohibit, remove, and respond to illicit connections and discharges in the City. Last, the City had established an effective response process and standard operating procedures for responding to reports of potential illegal discharges to the MS4.

Deficiency Noted:

2.1.2 The City had not identified appropriate triggers for dry weather screening as part of the IDDE program. As stated in Appendix A, Part III, Section E of the Permit, "the City shall develop criteria by which to determine whether dry weather flows contain illicit connections or discharges and shall implement a program to effectively make such determinations." Section 6.3.3 of the City's SWMP discussed standard field screening procedures for outfall inspections or field screening points and identified analytical triggers used during dry weather conditions as required by the Permit.

The City identified triggers in Table 4 on page 6-4 of the SWMP (see Appendix E); however, several of the triggers listed in Table 4 did not align with the inspection form used by City staff in the field to conduct dry weather screening of outfalls or other field screening points (see Appendix B, Exhibit 3). For example, odor is listed as a parameter in Table 4, with a method of detection listed as "visual", and the triggers listed in the table were "chemical, gas, or sulfur", but the IDDE inspection form lists "none, musty, sewage, rotten egg, sour milk, and other" under the visual observation for odor. Another parameter listed in Table 4 was color and the trigger was "off-color", but the IDDE form used by inspectors lists "clear, red, yellow, green, brown, or other." Some of the triggers themselves may not be entirely appropriate for identifying the presence of illicit discharges. For example, the presence of an odor may be indicative of an illicit connection; however, odor may not be a good indicator parameter for identifying non-visible pollutants commonly associated with illicit discharges.

The field screening and trigger identification process should be evaluated and clarified. The City should consider assessing the triggers identified in Table 4 of the SWMP and the triggers used by inspectors to ensure accurate identification of illicit discharges and connections.

2.2 Municipal Facility Pollution Prevention, Good Housekeeping Practices and Activities

The Permit requires the City to implement the provisions of Appendix A, Part IV, Municipal Facilities Pollution Prevention and Good Housekeeping Practices including detailing the components of the program in the SWMP and achieving measurable goals listed in Appendix A, Part IV, Sections A-E.

The Audit Team conducted site visits at six municipal facilities on March 7-8, 2012. A review of the ranking criteria for municipal facilities and observations regarding pollution prevention and good housekeeping practices made at each facility during the audit are included in this section.

Deficiencies Noted:

2.2.1 The City had not fully developed ranking criteria for municipal owned facilities based on the potential to cause a substantial pollutant load. As stated in Appendix A, Part IV, Section B.2 of the Permit “Tempe shall review the potential pollutants and other factors of risk at such facilities [types of facilities identified in Appendix A, Part IV, Section B.1] and prioritize them for an on-site review to determine if they have a potential to cause a substantial pollutant load (i.e. identify ‘higher risk’ facilities).” Furthermore, Appendix A, Part IV, Section B.2 of the Permit states, “Factors that will be considered for purposes of prioritization include: 1) Quantity and location of materials used and/or stored at the facility; 2) Potential for exposure to stormwater; and 3) Potential to discharge a substantial pollutant load to the MS4 or to waters of the U.S.” Section 7.2 of the City’s SWMP describes the Municipal Facility Stormwater Inspection Program and includes discussions on the inventory, prioritization, and process for implementing the inspection program.

The City had inventoried municipal sites and had developed ranking criteria for municipal facilities. Table 6 of the SWMP prioritizes municipal facilities assigning numbers 1, 2, or 3, with Priority 1 having the highest potential to discharge a substantial pollutant load to the MS4 or waters of the U.S. and a high potential for spills, Priority 2 facilities having less potential to discharge and low potential for spills, and Priority 3 facilities having minimal or no potential to discharge. The table indicates that facilities ranked as Priority 1 would be inspected biennially, Priority 2 would be inspected every three years, and Priority 3 would be inspected every five years. The municipal facility list and ranking was provided to the Audit Team during the audit (see Appendix B, Exhibit 4) and was used by the Audit Team to determine which facilities would be visited during the Audit. After reviewing the ranking criteria provided in Section 7 of the SWMP, it was evident that the focus of the ranking criteria was on hazardous material use and accumulation and did not consistently consider the potential for other pollutant loads such as sediment or runoff from discarded equipment, materials and poor housekeeping.

The City should assess the risk factors at sites and re-evaluate facilities based on the types of activities and materials (i.e. aggregate stockpiles) being stored and potential for exposure to stormwater. It should be noted that at the time of the audit, the City was in the process of conducting inspections of its facilities to identify potential threats to stormwater quality and required remedies.

2.2.2 Concerns pertaining to improper pollution prevention practices were noted during site visits at municipal facilities conducted as a component of the audit. As stated in Appendix A, Part IV, Section C.2 of the Permit “Tempe shall inspect each ‘higher risk’ municipal facility (see IV.B(2)) [reference to section in Appendix A of Permit] and shall also recommend repair or maintenance of control measures as necessary, or other pollution prevention activities with the goal of improving the quality of stormwater discharged from the site.”

On March 7–8, 2012, the Audit Team conducted site visits at six municipally owned facilities. The purposes of the site visits were to document site conditions and to assess the City’s oversight activities for municipal operations and maintenance. The Audit Team visited Hardy Transportation Yard, Priest Maintenance Yard, Household Products Collection Center, Kiwanis Park Maintenance Facility, Ken

McDonald Golf Course Maintenance Facility, and the Rolling Hills Golf Course Maintenance Facility. The Audit Team referenced the SWMP, 2010-2011 Annual Report, and the *City of Tempe's Facility Chemical Handling and Spill Procedures* (see Appendix B, Exhibit 5) for comparison to observed site conditions. The *City of Tempe Facility Chemical Handling and Spill Procedures* document was referenced in the SWMP and provided to the Audit Team prior to conducting site visits.

Due to their relevance to the City's obligations under its MS4 permit, summary observations pertaining to the site visits are presented below. All referenced exhibits are contained in Appendix B, Exhibit Log, and all referenced photographs are contained in Appendix C, Photograph Log.

Hardy Maintenance Yard

The Hardy Maintenance Yard, owned and operated by the City, is used for various activities including the following: (1) vehicle and equipment storage, (2) material storage, (3) satellite accumulation area, (4) painting, (5) traffic signs shop and storage area, and (6) traffic crew operations. The Environmental Services Section of the Public Works Department conducted a facility inspection on August 24, 2011 and ranked the facility a Priority 2.

The Audit Team observed the following with regard to pollution prevention and good housekeeping at the Hardy Maintenance Yard:

- Sediment accumulation was observed in a low area down gradient of the vehicle and equipment parking area (see Appendix C, Photograph 1). According to City staff, stormwater sheet flows across the facility and drains to a City-owned basin immediately adjacent to the Hardy Maintenance Yard.
- Minor staining on the ground surface was observed in the vehicle and equipment staging area (see Appendix C, Photograph 1).

Priest Maintenance Yard

The Public Works Priest Maintenance Yard, owned and operated by the City, is used for various activities including the following: (1) vehicle and equipment maintenance, (2) painting shop, (3) wash bay, (4) garbage truck, vehicle, and equipment storage, (5) roll-off container storage, (6) garbage bin storage, (7) material storage, (8) tire shop, and (9) recycled asphalt stockpiling. Additionally, the Tempe Police Department maintains two areas for vehicle impounding, and the City's Parks Department occupies an area for storing various materials. According to the City, the Priest Maintenance Yard has coverage under a Multi-Sector General Permit (MSGP). While the Priest Maintenance Yard was assigned a Priority 1 ranking, it operates under the MSGP and the City's EHS Manager is responsible for conducting facility inspections quarterly and annually, rather than the Environmental Services Division.

The Audit Team observed the following with regard to pollution prevention and good housekeeping at the Priest Maintenance Yard:

- Water was observed in the gutter that runs through the facility adjacent to garbage truck parking area (see Appendix C, Photographs 2 and 3). The Audit Team observed a water truck filling its tank at a location up gradient of the garbage truck parking area. Overfilling the water truck may result in water runoff through the site. However, the practice was not actively occurring and therefore the source of the water in the gutter could not be confirmed at the time of the audit.
- Sand spread on asphalt was observed near roll-off container storage area (see Appendix C, Photograph 4). Visible staining within sand and evidence of staining on asphalt may indicate sand was being used as absorbent material. City staff accompanying the Audit Team was not certain why the sand had been spread on the asphalt.
- Various construction-related materials were observed in a fenced off area up gradient from the Priest Maintenance Yard. According to the City's EHS Manager, the material storage area is managed by the Parks Department. During the visit, the Audit Team observed aggregate stockpiles and construction debris with no erosion or sediment control best management practices

(BMPs) in the Parks Departments storage area (see Appendix C, Photographs 5 and 6). Additionally, various materials including paint cans, aerosol cans, and paint thinner was being stored outside, exposed to stormwater and not in containment (see Appendix C, Photograph 7). It should be noted, after the site visit the City informed the Audit Team that the Parks Department addressed the issues related to the improper storage of paint and other chemicals.

- Staining underneath a street sweeper was observed in the vehicle and equipment staging area (see [Appendix C, Photograph 8](#)). The Audit Team was not able to confirm if the stain was from the contents of the sweeper, water, or mechanical issues.
- Gully erosion was observed on the access road sloping down from a public bike path (see Appendix C, Photograph 9). City staff indicated that the road is not vehicle accessible. The City should consider grading the road to prevent further erosion.
- The Tempe Police Department has two designated areas at the Priest Maintenance Yard for vehicle impounds. During the site visit the Audit Team observed vehicles stored in the impound area that were damaged. The City staff accompanying the Audit Team during the site visit were not able to provide information about the process for draining fluids from vehicles that have been in accidents prior to storing in the impound lots.

Household Products Collection Center

The Household Products Collection Center owned and operated by the City, collects, recycles, and disposes of household hazardous waste. Items such as automotive products, electronics, cleaning products, paints and solvents, and pesticides can be brought to the collection center for recycling or proper disposal. The Environmental Services Section of the Public Works Department conducted a facility inspection on August 26, 2011 and ranked the facility a Priority 1.

The Audit Team observed the following with regard to pollution prevention and good housekeeping at the Household Products Collection Center:

- Electronic waste (e-waste) was stored outside on a loading dock (see Appendix C, Photograph 10). The e-waste accepted at the Household Products Collection Center includes computers, monitors, televisions, and phones. The City should consider storing e-waste under a cover to prevent exposure to stormwater.

Kiwanis Park Maintenance Facility

The Kiwanis Park Maintenance Facility owned and operated by the City, is used for various activities including the following: (1) park-related maintenance activities, (2) fertilizer storage, (3) aggregate stockpiling, (4) equipment storage, (5) fleet maintenance, (6) wash rack, (7) fueling operations, and (8) equine boarding. The Environmental Services Section of the Public Works Department conducted a facility inspection on December 28, 2011 and ranked the facility a Priority 1.

The Audit Team observed the following with regard to pollution prevention and good housekeeping at the Kiwanis Park Maintenance Facility:

- Staining was observed in the equipment parking area (see Appendix C, Photograph 11). The City should continually monitor equipment and perform necessary maintenance to prevent or minimize equipment leaks. Additionally, the City should consider using drip pans under leaking vehicles or equipment.
- Water was observed in the gutter and was also visible on pervious surfaces up gradient of the gutter (see Appendix C, Photographs 12 and 13). City staff indicated the area is used for washing activities and water observed during site visit may have been from rinsing out the back of a truck. City staff told the Audit Team that City-owned trucks are used to collect bags of garbage throughout the park and after off-loading the garbage bags, drivers will rinse out the back of the truck. The City should review existing procedures to ensure controls are in place and adequate facilities and BMPs provided for washing activities.

- Coals collected from the grills located in the Kiwanis Park were observed on the ground at the maintenance facility (see Appendix C, Photograph 14). City staff told the Audit Team that staff collects the coals in the Kiwanis Park and brings them back to the maintenance facility for disposal. Typically the coals are collected in bins; however, at the time of the site visit, coals were observed on the ground exposed to stormwater.
- Water was observed in the gutter that runs through the facility adjacent to administrative building and parking area (see Appendix C, Photographs 15 and 16). The Audit Team observed a water truck parked up gradient of the gutter. Water observed in gutter may have come from the water truck; however, this could not be confirmed at the time of the audit.
- Visible staining was observed outside an area used by fleet maintenance to store waste oil and transmission fluid (see Appendix C, Photographs 17 and 18). City staff told the Audit Team that a mechanism was being custom-made to prevent spills during material transfer.

Ken McDonald Golf Course Maintenance Facility

The Ken McDonald Golf Course Maintenance Facility owned and operated by the City, is used for various activities including the following: (1) vehicle and equipment storage, (2) fertilizer storage, (3) material storage, and (4) aeration pumping system for a golf course pond. The Environmental Services Section of the Public Works Department had not yet conducted a facility inspection at the time of the audit; however, the facility was ranked Priority 1.

The Audit Team observed the following with regard to pollution prevention and good housekeeping at the Ken McDonald Golf Course Maintenance Facility:

- A green substance was observed on asphalt under a covered area (see Appendix C, Photograph 19). City staff told the Audit Team the substance was tracker dye and the spill had recently occurred. While the spill occurred underneath a covered maintenance bay, processes should be developed and implemented to ensure spills are cleaned up in a timely manner.
- Soil was observed on old sprinkler heads being stored outside (see Appendix C, Photograph 20). The City staff informed the Audit Team that sprinkler heads will be recycled and are being temporarily stored. The City may consider storing underneath cover due to the amount of soil remaining on the sprinkler heads.
- Grass clippings and sediment accumulation was observed in multiple areas at the facility (see Appendix C, Photograph 21 through 23). Improved maintenance is needed to ensure grass clippings and sediment is regularly removed to prevent exposure to stormwater.
- Staining was observed next to equipment no longer in operation and in equipment storage areas (see Appendix C, Photographs 24 through 27). Processes should be developed and implemented to ensure adequate maintenance of equipment is performed to prevent leaks.

Rolling Hills Golf Course Maintenance Facility

The Rolling Hills Golf Course Maintenance Facility owned and operated by the City, is used for various activities including the following; (1) vehicle and equipment storage, (2) fertilizer storage, (3) material storage, and (4) fueling operations. The Environmental Services Section of the Public Works Department conducted a facility inspection on September 9, 2011 and ranked the facility a Priority 2.

The Audit Team observed the following with regard to pollution prevention and good housekeeping at the Rolling Hills Golf Course Maintenance Facility:

- Water was observed from washing activities (see Appendix C, Photographs 28 and 29). City staff told the Audit Team that mowers are rinsed off in the area and the Audit Team noted that the ground was saturated.

- A spill kit stored outside had a cracked lid and as a result water had accumulated inside the container significantly reducing the effectiveness of its contents (see Appendix C, Photograph 30).
- Multiple stockpiles of material including sand and compost/sand mix were observed on site with no erosion or sediment control BMPs (see Appendix C, Photographs 31 through 35). Two stockpiles were observed in the parking lot for the golf course outside the maintenance facility (see Appendix C, Photograph 36).
- Slopes along property boundary of the facility and golf course bordering the Phoenix Zoo had high potential for erosion (see Appendix C, Photographs 37 and 38).

2.3 Construction Sites

The Permit requires the City to implement the provisions of Appendix A, Part VI, Construction Sites, including detailing the components of the program in the SWMP. The City's construction site program must include the specific requirements and the measurable goals listed in Appendix A, Part VI, Sections A-G.

On March 8, 2012, the Audit Team conducted site visits at one public construction site and four private construction sites. All five sites has active construction occurring. All four of the private sites had obtained building permits regulated under the authority of the City's Community Development Department. The purpose of the site visits was to assess the City's oversight activities for construction sites. Summary observations pertaining to a subset of these sites are presented below where they directly pertain to the City's oversight obligations under its MS4 permit.

Positive Attribute:

2.3.1 Effective use of erosion and sediment control BMPs and high stormwater awareness were evident at the public construction site. The Audit Team visited the East Valley Bus Operations and Maintenance Facility which was undergoing an expansion and upgrade. The Audit Team met with the City inspector and the contractor representative. Appropriate erosion and sediment control BMP's were observed on site, the BMPs were installed correctly, and the BMPs appeared to have been maintained at regular intervals. No site deficiencies were identified. Furthermore, the rapport between the City inspector and the contractor appeared to be routine and effective and expectations for site conditions had been established.

Potential Non-compliance:

2.3.2 Inadequate and inappropriate use of BMPs to effectively control potential stormwater pollutants was observed at private construction projects. Appendix A, Part VI, Section F of the Permit states "the City shall inspect construction projects to determine whether effective erosion and sediment controls are in place and verify conformance with local stormwater requirements and approved construction plans." To comply with this requirement, the City representatives stated that the inspectors focus their attention and oversight exclusively on perimeter erosion and sediment control BMPs with a goal of preventing sediment and runoff from entering the MS4. Additionally, it was stated that the on-site stormwater retention facility was the primary BMP for accomplishing this goal as on-site stormwater is to be routed to the retention facility during active construction. During meetings with staff in the Engineering Department the Audit Team was informed that City inspectors and plan reviewers did not evaluate the adequacy or content of the SWPPP submitted by the project proponent and the SWPPP was not used or reviewed by the City inspectors during active construction.

During the interview session and again during the field component it was stated that the City inspectors did not have access to, or rely upon, established or city-specific BMP design standards for erosion and

sediment control BMPs. Therefore, the determination regarding the appropriateness of the BMPs, their installation and maintenance was left to the discretion of the City inspector.

During the site visits BMP appropriateness and installation and maintenance deficiencies were noted at each of the active construction sites. The Audit Team observed improper use of BMPs for perimeter control and limited or no BMPs (i.e. inlet protection) beyond perimeter controls. Additionally, while the on-site retention facility would have captured and retained a portion of any runoff at most of the sites, other pathways and areas of high vulnerability for sediment discharge and runoff reaching the MS4 were observed at each of the sites.

Because of their relevance to the City's obligations under its MS4 permit, summary observations pertaining to the site visits are presented below. All referenced photographs are contained in Appendix C, Photograph Log.

Arizona State University ISTB4

During the site visit to the Arizona State University ISTB4 construction project the Audit Team did not observe BMPs at the catch basin (see Appendix C, Photograph 39). Additionally, water was observed in the gutter and the Audit Team was told that the water was likely from the water truck, grinder, or sweeper.

San Marque Apartment

During the site visit to the San Marque Apartments light track-out was observed at the entrance to the project. Additionally the Audit Team did not observe inlet protection and the straw wattles had not been installed properly.

Lake Country Village

During the site visit to Lake Country Village the Audit Team observed inappropriate and inadequate use of BMPs. For example, proper installation of wattles includes entrenching and staking into the ground and the use of effective stabilized construction entrance. At Lake Country Village, wattles were placed directly on asphalt (see Appendix C, Photographs 40 and 41). Additionally, the Audit Team observed material stockpiles with no erosion or sediment control BMPs (see Appendix C, Photograph 42).

Baer's Den

The fourth active construction project visit by the Audit Team was to Baer's Den. The Audit Team observed wattles used for perimeter controls. However, the wattles were in poor condition, not entrenched, and the joints were not abutted (see Appendix C, Photographs 43 through 45). Furthermore, perimeter controls were not installed in all areas and inadequate inlet protection was observed (see Appendix C, Photographs 46 and 47).

The City should substantially improve their construction oversight program by (1) adopting or developing erosion and sediment control BMP installation and maintenance specifications, (2) providing additional training to inspectors regarding their use, (3) ensuring the effective use and maintenance of perimeter control BMPs to effectively ensure against sediment and runoff discharges to the MS4, (4) encouraging and/or requiring more effective internal drainage channels that will maximize the use of the on-site retention facility, (5) implementing procedures to review SWPPPs for private projects, and (6) encouraging efforts to provide enhanced consistency and continuity between the public and private construction site oversight obligations and expectations, inspection process and inspector responsibilities.

3.0 ADDITIONAL OBSERVATIONS

The Audit Team made several additional observations during the audit.

- As a recommendation for improving the public education and outreach program, the City may consider enhanced efforts to measure the effectiveness of the existing public education and outreach program within the community. The efforts could be tailored to measure awareness and behavioral changes based on the current program structure. Additionally, the City may consider developing a branding message for the stormwater program to communicate to the City Council and the citizen base conveying the overall objective of the program.
- The City should consider improving standard operating procedures and process for conducting dry weather flows to ensure the safety of staff is not at risk during inspections.
- The City had established a requirement obligating on-going maintenance of post-construction controls. However, the City may consider developing a system for tracking the deployment of post-construction controls both within private and public lands. While the City only identified a few post-construction controls, other than the widely used on-site retention, establishing a tracking system would ensure any new post-construction controls are accounted for to ensure proper long-term operation and maintenance of these additional controls. Additionally, the City may consider establishing a program to guide the development community to design and implement post-construction controls that address pollutants of concern.



Janice K. Brewer
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

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Henry R. Darwin
Director

CERTIFIED MAIL
Return Receipt Requested

May 31, 2012

City of Tempe
Attn: Charlie Meyer, City Manager
31 E 5th Street
Tempe, AZ 85281

Re: MS4 Audit; Permit No. AZS00005-2010

Dear Mr. Meyer:

Enclosed is a copy of the *Municipal Separate Storm Sewer System Compliance Audit Report* for City of Tempe (the City). The audit was completed on March 7 and 8, 2012, by U.S. Environmental Protection Agency's contractor, PG Environmental, LLC with assistance from the Arizona Department of Environmental Quality and participation and cooperation from your staff.

The purpose of the audit was to assess the City's compliance with the Arizona Pollutant Discharge Elimination System General Permit for Small Separate Municipal Separate Storm Sewer Systems (MS4s) to Waters of the United States (the Permit). The Permit authorizes the City to discharge storm water runoff and certain non-storm water discharges from its MS4 to waters of the United States, under the Permit terms and conditions.

The permit establishes minimum control measures for a storm water pollution control and management program. The audit reviewed implementation of the City's Storm Water Management Plan (SWMP) in light of the requirements established in the Permit. The audit included document reviews, interviews with City program managers, and field verification inspections. The audit report identified several elements of the City's MS4 Program that were particularly notable:

1. Overall the City has an effective stormwater program and demonstrated strong leadership from top management.
2. Multiple Departments at the City are delegated responsibilities for implementing the stormwater program and these departments appear to embrace their responsibilities.
3. The City uses diversified routes and mechanisms for distributing educational materials and conducting outreach, including social media and collaborating with other entities.
4. The City has an established industrial pretreatment program providing a fundamental element and good foundation for a successful stormwater program.

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(520) 628-6733

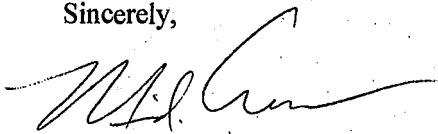
5. The City had developed an effective illicit discharge detection and elimination (IDDE) inspection program with seven multi-program inspectors who conducted inspections in assigned areas of the City. The staff interviewed during the audit appeared knowledgeable and motivated to prohibit, remove, and respond to illicit connections and discharges in the City.
6. The City has established an effective response process and standard operating procedures for responding to reports of potential illegal discharges to the MS4.
7. The City's Household Products Collection Center is effectively managing household hazardous waste to ensure proper handling and disposal and further prevent stormwater pollution.
8. The City has established a food industry inspection program to ensure proper management of fat, oil, and grease by restaurants.
9. The City's Engineering Department is actively involved in plan review and stormwater pollution prevention plan adequacy for Capital Improvement Program (CIP) projects.
10. The City demonstrates effective use of best management practices (BMP)s for erosion and sediment control on a CIP project visited by the EPA Audit Team.
11. The City's requirement of on-site retention for a 100-year storm event is an effective approach for stormwater pollution prevention.

The most significant program deficiencies identified during the audit were:

1. The City had not identified appropriate triggers for dry weather screening as part of the IDDE program.
2. The City had not fully developed ranking criteria for municipal owned facilities based on the potential to cause a substantial pollutant load.
3. Improper pollution prevention practices were noted during site visits at municipal facilities.
4. Inadequate and inappropriate use of BMPs to effectively control potential stormwater pollutants were observed at private construction projects.

I encourage the City to use the Audit Report findings as a guide for program improvements. Please respond to the audit report by July 1, 2012, with any clarify comments and any updates or proposed updates to address potential deficiencies on program enhancements. If you have any concerns or questions or wish to set up a meeting with ADEQ to discuss the results of this audit, please contact me directly at (602) 771-2209.

Sincerely,



Mindi Cross, Manager
Water Quality Compliance Section
Arizona Department of Environmental Quality

Cc: David E. McNeil, Environmental Services Manager

**Proposed Agenda for MS4 Program Evaluation
of Lake Havasu City, AZ
October 25-26, 2011**

(Subject to modification)

Day	Time	Program Area/ Agenda Item
Tuesday Oct 25, 2011	8:30 am - 9:00 am	Kick-off Meeting & Program Management Overview
	9:00 am - 9:30 am	Public Education, Outreach, Participation, and Involvement
	9:30 am - 12:00 pm	Illicit Discharge Detection and Elimination (Office and Field)
	12:00 pm - 1:00 pm	Lunch Break
	1:00 pm - 4:00 pm	Pollution Prevention/Good Housekeeping (Office and Field)
Wednesday Oct 26, 2011	8:30 am - 10:30 am	Construction and Post-Construction (Office)
	10:30 am - 12:00 pm	Construction and Post Construction (Field)
	12:00 pm - 1:00 pm	Lunch Break
	1:00 pm - 3:00 pm	Team A - Construction/Post-Construction (Field) Team B – TMDL's, Measuring Program Effectiveness, or Follow-up on Prior Items
	3:00 pm - 4:00 pm	Closing Conference ¹ Tentative time slot

¹ The City is encouraged to invite representatives from all applicable organizational divisions/departments.

Appendix B

Exhibit Log

Exhibit 1
Notice of Program Evaluation and EPA Records Request, dated
October 19, 2011

**MS4 PROGRAM EVALUATION
LAKE HAVASU CITY, AZ
OCTOBER 25 —26, 2011**

Records requested to be available on-site:

Program Management/ Kick-off Meeting

1. Current Storm Water Management Program document—written description of your current MS4 Programs/Program Areas
2. Program organizational chart and/or a description of the departments involved in the implementation of your MS4 program and their responsibilities
3. Current MS4 permitted area, combined sewer service area (if applicable), land use, and receiving waters map—County background, demographics, and context
4. Any formal agreements with other local governments for implementation of your MS4 programs (e.g., memoranda of understanding)

Public Education, Outreach, Participation, Involvement

5. Examples of program materials, news paper articles, agreements with other partners, data demonstrating program achievements and measureable goals
6. Surveys or tangible examples of improved awareness and behavioral changes

Illicit Discharge and Elimination

7. Storm drain system map and onsite demonstration of any associated mapping tools. Emphasize layers/mapping that informs the MS4 program activities (e.g., storm drain system, structural controls, outfalls, receiving waters, etc.)
8. A representative schedule, map, or description of the outfall inspection program used to identify illicit discharges and/or connections.
9. An inventory of businesses, entities, or areas inspected, visited, or observed as part of the illicit discharge program. Also provide a copy of the inspection form used by city inspectors.
10. Onsite demonstration of the database or system used to record illicit discharge incident information. As part of this effort, 2 - 3 hardcopy examples of a completed illicit discharge incident that includes identification, response, and remedy. At least one of the examples should include an example/case file of an incident where enforcement was used (ideally full extent of enforcement authority).
11. If available, the most current list or map of priority areas/areas of concern within the MS4 and/or areas receiving increased surveillance and/or points within the MS4 where dry weather flows are intercepted/directed into the sanitary sewer for treatment, if any.

Construction Site Storm Water Runoff Control

12. All ordinances pertaining to land disturbing activities (e.g., erosion and sediment control)

13. All other construction-related regulatory mechanisms (e.g., land disturbance or grading permit)
14. Erosion and Sediment (E&S) Control Plan/SWPPP review checklist
15. Construction site plan review procedures
16. Construction BMP Manual
17. Construction inspection and enforcement procedures
18. Construction inspection field checklist
19. Construction inspection records (most recent Reporting Year)—EPA Inspection Team will select specific sites at the time of the inspection
20. Inventory/map of current active construction sites with location
21. Example/case file of a construction site issue where enforcement of local ordinance was used (ideally full extent of enforcement authority)
22. Records of follow up actions to citizen/employee complaints regarding construction site issues (most recent Reporting Year)
23. Training records and syllabus (i.e., training content) for educating construction site operators and municipal operations staff (most recent Reporting Year)

Post-Construction Storm Water Management

24. All post-construction related ordinances and regulatory mechanisms pertaining to development and redevelopment
25. Example post-construction BMP plan
26. Post-construction plan review checklist
27. Post-construction BMP Manual and design standards
28. Database/map of post-construction BMPs with location and maintenance status (differentiating municipally owned and operated from private)
29. Records of post-construction BMP maintenance inspections (most recent Reporting Year)—EPA Inspection Team will select specific sites at the time of the inspection
30. Requirements for long-term operation and maintenance of post-construction BMPs

Pollution Prevention/Good Housekeeping for Municipal Operations

31. Inventory/map of municipal facilities/corporate yards
32. Example Storm Water Pollution Prevention Plan—EPA Inspection Team may select additional sites at the time of the inspection
33. Municipal employee training records and syllabus (i.e., training content) on pollution prevention and IDDE
34. Standard operating procedures (SOPs) and checklists used for conducting municipal facility inspections
35. Records (i.e., completed checklists) for municipal facility inspections (most recent Reporting Year)—EPA Inspection Team will select specific sites at the time of the inspection

TMDL Implementation

36. Onsite presentation and discussion of the City's efforts to meet TMDL Wasteload Allocations and/or development of TMDL Implementation Plans.

***Note: In addition to the numbered items requested, also provide any other documents or tools that you believe demonstrate program development and structure.**

Exhibit 2
Email Communication Between Lake Havasu City and Mohave
County Regarding Ongoing Illicit Discharge, dated April 11, 2007

From: Ed Donahue

Sent: Wednesday, April 11, 2007 10:47 AM

To: nadja.bohnstedt@co.mohave.az.us

Cc: Bob Leuck; Charlene Yarno; Dennis Steele; Doug Thomas; Doyle Wilson; Janice Sorenson; Jeffrey LeMire

Subject: Javalina Cantina

Attachments: Food Spill 4-11-07.ppt

Hello Nadja,

Here we go again Javalina Cantina is spilling into the crosswalk again due to a drain back up. Evidently this has been going on for a few weeks now. I have received a couple of phone calls on this matter from a citizen since I have been back from vacation. I have spoke to Ken the manager of Javalina Cantina and told him that you will be out to inspect and that I will be gathering pictures for your review. I really cannot go any further with this other than informing you of this reoccurring problem. I have attached pictures in power point for your review.

Thanks

Ed Donahue
Industrial Waste Inspector
1150 McCulloch Blvd
LHC, AZ 86403
Office (928) 855-3999
Cell (928) 208-6736
donahuee@lhcaz.gov

Exhibit 3
Email Communication Between Lake Havasu City and ADEQ
Regarding Required Legal Authorities, dated January 3, 2011

From: Phillip J. Martello [Martello.Phillip@azdeq.gov]

Sent: Monday, January 03, 2011 12:43 PM

To: Jeffrey LeMire

Subject: RE: Inspection Report for Nautical Beachfront Resort

I will look into some examples of other Phase II communities. No, LHC wouldn't take over jurisdiction/permitting they would just have legal authority to enforce via city ordinances to have operators of construction sites implement BMPs and maintain compliance with the CGP permit. The only reporting to ADEQ would be through the cities existing Phase II annual stormwater reports. This is a requirement through LHC's Small MS4 stormwater permit, but yes, ADEQ does encourage other non-permitted communities to implement similar ordinances.

Refer to Section V.B.4.b of the Small MS4 stormwater general permit:

Using an ordinance or other regulatory mechanism available under the legal authorities of the small MS4, require construction site operators to practice erosion and sediment control and require construction site operators to control waste and properly dispose of wastes, such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality. This ordinance must apply, at a minimum, to those sites described in Part V, Section B.4.a.

Phillip Martello
Environmental Program Specialist
Arizona Department of Environmental Quality
Stormwater and General Permits
martello.phillip@azdeq.gov
(602) 771-4580

From: Jeffrey LeMire [mailto:LeMireJ@lhcaz.gov]

Sent: Monday, January 03, 2011 11:50 AM

To: Phillip J. Martello

Subject: RE: Inspection Report for Nautical Beachfront Resort

Do you have any examples of City Ordinances other communities have used for development of the legal authority? Would Lake Havasu City take over the jurisdiction/permitting authority from ADEQ then? To what extent would our enforcement capabilities and responsibilities for reporting to ADEQ be? Does ADEQ prefer communities to do this?

Thanks,

Jeffrey LeMire
Public Works Project Manager
[Lake Havasu City](#)

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Lake Havasu City, AZ 86403-5950
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EMAIL lemirej@lhcaz.gov
FAX (928)855-9285

From: Phillip J. Martello [mailto:Martello.Phillip@azdeq.gov]

Sent: Monday, January 03, 2011 11:45 AM

To: Jeffrey LeMire

Subject: RE: Inspection Report for Nautical Beachfront Resort

Jeff, thanks for the info. I will forward this email to our compliance people at our NRO office and have someone conduct an inspection. An important component of the construction Minimum Control Measure (MCM) in the Phase II stormwater permit is to develop legal authority and enforcement through city ordinances.

Phillip Martello
 Environmental Program Specialist
 Arizona Department of Environmental Quality
 Stormwater and General Permits
martello.phillip@azdeq.gov
 (602) 771-4580

From: Jeffrey LeMire [<mailto:LeMireJ@lhcaz.gov>]
Sent: Monday, January 03, 2011 10:38 AM
To: Phillip J. Martello
Subject: RE: Inspection Report for Nautical Beachfront Resort

Phil,

Thanks for the update on this matter Lake Havasu City has been trying to work with the developer and contractor to implement a successful SWPPP on the project and have hit many road blocks. Therefore we informed them they needed to inform ADEQ of the failure of the implemented BMP's because they would not listen to City comments on the issue. We also solved some of their problems with erosion by pointing out that their irrigation lines were broke and adding to the drainage issues resulting from storms. If you have any suggestions on how Lake Havasu City can improve the NPDES/SWPPP implementation on both private and public projects please let me know. We seem to be having difficulty with contractors using BMP's because of our dry climate and really have no enforcement since that is all dedicated to ADEQ in the state of Arizona.

Thanks,

Jeffrey LeMire
 Public Works Project Manager
[Lake Havasu City](http://LakeHavasacity.com)

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 FAX (928)855-9285

From: Phillip J. Martello [<mailto:Martello.Phillip@azdeq.gov>]
Sent: Monday, January 03, 2011 10:26 AM
To: Jeffrey LeMire
Subject: Inspection Report for Nautical Beachfront Resort

Hello Jeff,

We received an inspection report for AZCON-522982 Nautical Beachfront Resort. I contacted Mike Goering the operator to notify him that we do not need to receive CGP inspection reports. Mike mentioned that the city request that he send in his inspection report. I am just verifying that it was received. Let me know if you need ADEQ to look into this further, thanks.

Phillip Martello
 Environmental Program Specialist
 Arizona Department of Environmental Quality
 Stormwater and General Permits
martello.phillip@azdeq.gov
 (602) 771-4580

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Exhibit 4
Email Communication within Lake Havasu City Staff Regarding
the Need for Local Ordinance for Post-Construction Runoff
Program, dated November 10, 2010

From: Jeffrey LeMire

Sent: Wednesday, November 10, 2010 2:07 PM

To: Richard Wells; Mark Clark; Greg Froslic

Subject: RE:

ADEQ does not have specific requirements pertaining to discharges to Lake Havasu because it is not an impaired body of water at this time but once it gets on that list the requirements will become more severe. This project because of the size of the project being smaller than 1 acre the AZPDES (SWPPP) process does not get implemented. All types of development and redevelopment within the City needs to be handled with City codes and modifications to drainage requirements requiring pre-treatment of stormwater leaving any developed or redeveloped site. Introduction of retention/detention facilities to control flow rates needs to be included and are in the Mohave County Drainage Requirements. The key is not to increase runoff from the pre-developed flow rates, ie we don't want to increase the volume of water in our stormwater system (roads/washes). This project site is becoming all impervious therefore runoff in that area will be greater than pre-developed limits and this is when drainage issues can occur. The City's MS4 permit requires development, implement and enforce of these issues but it is pretty hard to do so when the City code does not follow the same principals. Through Codes we can establish all the requirements necessary to minimize stormwater pollution and mandate the pre & post construction items that the MS4 permit, current SWMP states along with dealing with water quality issues. Below is a portion of the MS4 requirements that we should be striving to meet on all development not just sites larger than 1 acre. Any questions or comments let me know. The following website link will bring you to the ADEQ site in which there are many links to Small SM4 rules and guidelines as well as other requirements.

<http://www.azdeq.gov/function/forms/appswater.html#ms4>





Thanks,

Jeffrey LeMire
Public Works Project Manager
[Lake Havasu City](#)

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Lake Havasu City, AZ 86403-5950
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EMAIL lemirej@lhcaz.gov
FAX (928)855-9285

From: Richard Wells
Sent: Wednesday, November 10, 2010 12:57 PM
To: Mark Clark; Greg Froslic
Cc: Jeffrey LeMire
Subject: RE:

Mark,

Not sure about ADEQ, we did make the Nautical Retain their runoff for example but in this case it is running to Mesquite. We were trying to have them depress the landscaping adjacent to the street to capture.

This has made us want to just adopt the Mohave Co DCM now cart blanc w/o a local addendum prepared just to get some basic administrative controls to use.

Jeff, do you know if ADEQ spells anything out.

From: Mark Clark
Sent: Wednesday, November 10, 2010 12:23 PM
To: Richard Wells; Greg Froslic
Subject: Re:

What are the ADEQ requirements for prevention of direct runoff into the lake?

From: Richard Wells
To: Larry Didion
Cc: Mark Clark; Greg Froslic; John Gervasoni; Jeffrey LeMire
Sent: Wed Nov 10 11:33:52 2010
Subject: FW:

Larry,

As Jeff mentions, we have no idea what is being referred to here. During design, we attempted to have them put some onsite retention in their landscaping areas but the engineer told us to take a hike since it was not in our current ordinance to do so. We did not pursue other than probably requiring normal construction BMP's.

Rich

From: Jeffrey LeMire
Sent: Wednesday, November 10, 2010 11:29 AM
To: Richard Wells
Subject: RE:

I thought we already took care of this and at no point did I say a French drain was needed, so how should we handle this. As far as I know they are approved to construct it so I do not know what Larry is referring to.

Thanks,

Jeffrey LeMire
 Public Works Project Manager
[Lake Havasu City](#)

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 EMAIL lemirej@lhcaz.gov
 FAX (928)855-9285

From: Richard Wells
Sent: Wednesday, November 10, 2010 11:25 AM
To: Jeffrey LeMire
Subject: FW:

You want to respond.

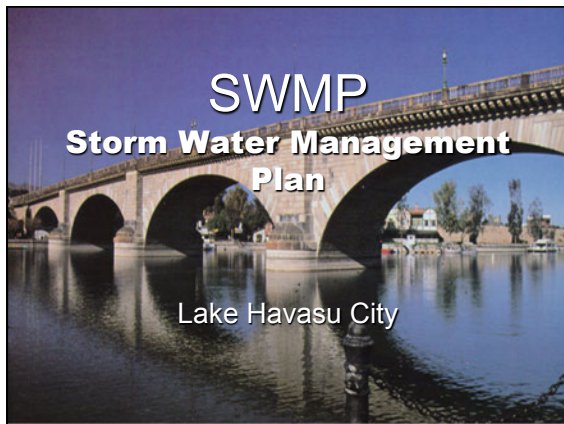
From: Larry Didion
Sent: Wednesday, November 10, 2010 10:24 AM
To: John Gervasoni; Greg Froslic; Richard Wells
Subject:

I have been approached by Mr. Cox, planner for the Chemehuevi Tribe, on the requirements for his proposed parking lot adjoining Mesquite Avenue in the area of the English Village. Mr. Cox noted the requirement to install a French Drainage and associated improvements to ensure water does not flow into the waters of the Channel. He noted that this requirement is in lieu of what he calls the normal requirement to drain the site to the adjoining public right-of-way.

Is anyone aware of the need or requirement for such improvements to this project? Please let me know so I can inform Mr. Cox.

Larry Didion
Development Services Director

Exhibit 5
Lake Havasu City Storm Water Management Program
Training/Presentation



EPA

- Developed the National Stormwater Program in Response to Legislature Passed by Congress (Federal Clean Water act of 1972)
- Subsequently the National Pollutant Discharge Elimination System (NPDES) created
- Water Quality Act of 1987 Established a Phased Approach for Stormwater Discharge Management
 - Phase One
 - Municipal separate storm sewer systems (MS4) that had over 100,000 residences
 - Phase II was adopted 1999
 - Lake Havasu City was designated as a phase II community Dec. 02

2

ADEQ Permitting

- ADEQ- Authorizing Authority for MS4 Permits in AZ
- Lake Havasu City Submitted a SWMP to ADEQ for the Permit in May 2003
- The SWMP is a Plan that Protects the Waters of the US from Pollutants to the Maximum Extent Practicable (MEP) from the City's Stormwater System

3

SWMP

Best Management Practices (BMP)

- Public Education and Outreach
- Public Involvement / Participation
- Illicit Discharge Detection
- Construction Site Runoff Controls
- Development Stormwater Controls
- Good Housekeeping for Municipal Operations

4

Public Education and Outreach

- Educational Brochures have been Developed on SWMP
- Distribute the Educational Brochures
- Provide Information about the SWMP

5

Public Involvement/ Participation

- Support Local Campaigns
 - Keep Havasu Beautiful
 - Neighborhood Watch Program
 - Youth Services Program
- Continue to Utilize Resources Available
- Designate a Public Contact for all Stormwater Issues
- Post Finalized Report on the City's Website

6

Illicit Discharge Detection

- Develop a Storm Sewer Map of the City
- Continue to Receive Training for the Detection of Illicit Discharges to the MS4
- Identify Acceptable Non-Stormwater Discharges
- Inform and Give Guidance to Neighborhood Watch Programs
- Continue with Inspections of Industrial Activities

7

Construction Site Stormwater Controls

- Develop Procedures to Require Erosion Control as Applicable
 - Handouts Distributed with Permits
- Develop a Public Education Effort for Construction Site Operators
 - Developer/Contractor SWPPP Presentation

8

New Development Stormwater Controls

- Assure New Developments Comply with State and Federal Stormwater Management Requirements
- Continue to Identify Areas of the City that Need Stormwater Improvements

9

Good Housekeeping for Municipal Operations

- Continue Street Cleaning Operations
- Parks & Rec. Continue Park Maintenance at all City Parks
- Public Works Sponsored Educational Workshops
- Continue with Post Storm Cleanup Program

10

Questions ??

11

Appendix C

Photograph Log



Photograph 1. Commercial boat rental, repair, and sales shop – View of discharge from boat maintenance leaving facility and entering the City MS4 on London Bridge Road.



Photograph 2. Commercial boat rental, repair, and sales shop – View of discharge from shop to the City MS4 on London Bridge Road.



Photograph 3. Commercial boat rental, repair, and sales shop – View of discharge from the shop to City MS4 on London Bridge Road.



Photograph 4. Commercial boat storage facility – Discharge from covered facility where boat is parked.



Photograph 5. Commercial boat storage facility – View of discharge from boat storage facility to City MS4 on London Bridge Road.



Photograph 6. Residential property – concrete mixer on private property for RV parking construction.



Photograph 7. Residential property – evidence of concrete washout from concrete mixer in Photograph 6.



Photograph 8. Residential development – Rill and gully erosion on slope down to Indian Bend Wash from residential lot.



Photograph 9. Residential development – fiber rolls approximately 10 feet from base of slope down to Indian Bend Wash.



Photograph 10. Residential development – Displaced hay bale on upstream side of culvert in the Indian Bend Wash.



Photograph 11. Residential development – Geotextile exposed and rocks washed out on downstream side of culvert in Indian Bend Wash.



Photograph 12. Residential development – rill and gully erosion on slope down to sidewalk from vacant lot.



Photograph 13. Residential development – Earthen berm along top of slope of graded lot.



Photograph 14. Residential development – Sediment tracking from disturbed lot into curb and gutter and roadway.



Photograph 15. Residential development – Material stockpiling and concrete washout on pervious area. No perimeter controls observed.



Photograph 16. Residential development – Material stockpile area and the end of paved road and adjacent to wash. Note curb cut and sediment accumulation and evidence of flow path through stockpiles.



Photograph 17. Residential Property – Graded single-family lot sloping down to roadway. No erosion or sediment control BMPs.



Photograph 18. Residential Property – Back side of lot adjacent to floodplain. Note no erosion or sediment control BMPs or perimeter controls.



Photograph 19. Commercial Site – Construction activity at the Telesis Preparatory School. Stockpiled material with no perimeter controls.



Photograph 20. Commercial Site – Constructed ramp up to concrete curb/sidewalk. No BMPs to control erosion of material used for ramp.



Photograph 21. Commercial Site – Designated concrete washout area at the Telesis Preparatory School construction site.



Photograph 22. Commercial Site – Open lot across street from Telesis Preparatory School construction site. Lot used for stockpiling material, parking, and container storage.



Photograph 23. Public Work Maintenance Facility – Aggregate stockpiles and unidentified drums.



Photograph 24. Public Works Maintenance Facility – Unidentified drum storage and free product on ground.



Photograph 25. Public Works Maintenance Facility – Battery storage area.



Photograph 26. Public Works Maintenance Facility – Hazardous Materials Storage Area. Note: No cover and hazardous materials are not in secondary containment.



Photograph 27. **Public Works Maintenance Facility – Visible staining in equipment parking area.**



Photograph 28. **Public Works Maintenance Facility – Concrete mixer and evidence of concrete washout on pervious surface.**



Photograph 29. Public Works Street Department Yard – Material stockpile area. No perimeter controls around stockpiles.



Photograph 30. Public Works Street Department Yard – Sweeper vehicle disposal area and washout area.



Photograph 31. Public Works Streets Department Yard – Catch basin with grate inlet. Degraded asphalt slurry visible near inlet.



Photograph 32. Public Works Streets Department Yard – Corrugated pipe outfalls to wash.



Photograph 33. Public Works – Street sweeping refuse stockpiled at top of wash.



Photograph 34. Residential Property – Washout from residential property at edge of pavement.



Photograph 35. Public Works – Sediment from washout at top of wash.



STATE OF ARIZONA
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY DIVISION
PHOENIX, ARIZONA 85012-2809

ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM
GENERAL PERMIT FOR DISCHARGE FROM
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)
TO WATERS OF THE UNITED STATES

In compliance with the provisions of the Arizona Pollutant Discharge Elimination System program, (Arizona Revised Statutes, Title 49, Chapter 2, Article 3.1 and Arizona Administrative Code, Title 18, Chapter 9, Articles 9 and 10), this general permit authorizes discharges certified under this general permit from those locations specified throughout the state of Arizona to waters of the United States. These discharges shall be in accordance with the conditions of this general permit.

This permit only authorizes discharges from those operators of small municipal separate storm sewer systems in Arizona who submit a complete Notice of Intent in accordance with Parts III and V of this general permit and who comply with the permit requirements and conditions of Parts IV and VI. All discharges authorized by this general permit shall be consistent with the terms and conditions of this general permit.

This general permit becomes effective on December 19, 2002.

This general permit and the authorization to discharge expire at midnight, December 19, 2007.

Issued this 19th day of DEC. 2002.

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY



Karen Smith, Director
Water Quality Division

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PART I. COVERAGE UNDER THIS GENERAL PERMIT

- A. Permit Area. This permit covers the state of Arizona, except for Indian Country.
- B. Eligibility.
 - 1. This permit authorizes the discharge of stormwater from small municipal separate storm sewer systems (MS4s) provided that the permittee complies with all the requirements of this general permit and the MS4:
 - a. Is located fully or partially within an urbanized area as determined by the latest Decennial Census by the Bureau of Census, or
 - b. Is designated for permit authorization by the Department under R-18-9-A902(D)(1), R18-9-A902(D)(2), R-18-9-A902(E), and R18-9-A905(A)(1)(f) which incorporates 40 CFR 122.32.
- C. Non-Stormwater Discharges.
 - 1. The permittee shall prohibit all types of non-stormwater discharges into its MS4 unless the discharges are authorized by a separate NPDES or AZPDES permit or not prohibited under Part I, Section C.2 or are identified by the permittee as occasional incidental non-stormwater discharges under Part V, Section B.3.a.ii.
 - 2. The following categories of non-stormwater discharges (occurring within the jurisdiction of the permittee) are only prohibited if the discharges are identified as significant contributors of pollutants to or from the MS4. If any of the following categories of discharges are identified as a significant contributor, the permittee must address the category as an illicit discharge as specified in Part V, Section B.3:
 - a. Water line flushing,
 - b. Landscape irrigation,
 - c. Diverted stream flows,
 - d. Rising ground waters,
 - e. Uncontaminated ground water infiltration,
 - f. Uncontaminated pumped groundwater,
 - g. Discharges from potable water sources,
 - h. Foundation drains,
 - i. Air conditioning condensate,
 - j. Irrigation water,
 - k. Springs,
 - l. Water from crawl space pumps,
 - m. Footing drains,
 - n. Lawn watering,

- o. Individual residential car washing,
- p. Discharges from riparian habitats and wetlands,
- q. Dechlorinated swimming pool discharges,
- r. Street wash water, and
- s. Discharges or flows from emergency fire fighting activities.

D. Limitations of Coverage. This general permit does not authorize:

- 1. Discharges mixed with sources of non-stormwater unless the non-stormwater discharges:
 - a. Comply with a separate NPDES or AZPDES permit, or
 - b. Are determined not to be a significant contributor of pollutants to waters of the United States;
- 2. Stormwater discharges associated with industrial activity as defined in 40 CFR 122.26(b)(14)(i)-(ix) and (xi);
- 3. Stormwater discharges associated with construction activity as defined in 40 CFR 122.26(b)(14)(x) or 40 CFR 122.26(b)(15);
- 4. Stormwater discharges currently covered under another permit;
- 5. Discharges to impaired waterbodies listed under section 303(d) of the Clean Water Act (CWA) if discharges from the MS4 contain, or may contain, pollutant(s) for which the waterbody is listed except:
 - a. If a TMDL has been established, and the stormwater management program (SWMP) is consistent with the requirements of the TMDL, including any wasteload allocation or load allocation in the TMDL. The SWMP must also identify BMPs the permittee will use to meet wasteload allocations or load allocations and include monitoring for associated pollutant(s); and
 - b. If a TMDL has not been established, and the SWMP includes a section describing how the program will control the discharge of 303(d) listed pollutants and ensure to the maximum extent practicable that discharges from the MS4 will not cause or contribute to exceedances of surface water quality standards. The SWMP must also identify BMPs the permittee will use to control discharges and include monitoring of their effectiveness;
- 6. Discharges that do not comply with Arizona's anti-degradation rule (R18-11-107). The anti-degradation rule may be obtained from the Department's Phoenix office or from the Department's Web site.

PART II. AUTHORIZATION UNDER THIS GENERAL PERMIT

A. Application for Coverage.

- 1. An applicant seeking authorization to discharge under this general permit shall submit to the Department a complete notice of intent (NOI), in accordance with the deadlines in Part III, Section A. The NOI must include the information and attachments required by Part III,

Section B.

If the Department notifies an applicant (either directly, by public notice, or by making information available on the Internet) of other NOI options that become available at a later date, such as electronic submission of forms or information, the applicant may take advantage of those options to satisfy the NOI submittal requirements.

2. If an operator changes or a new operator is added after an NOI has been submitted, the permittee shall submit a new or revised NOI to the Department.
3. A discharger who submits a complete NOI and meets the eligibility requirements in Part I may discharge stormwater from a small MS4 under the terms and conditions of this general permit 30 days after the date the NOI is received by the Department. For the purposes of this permit, receipt is the day the fax was sent, the day the NOI was hand-delivered to the Department, or the day the Department signed certified mail containing the NOI. Submission of the NOI demonstrates the discharger's intent to be covered by this permit; it is not a determination by the Department that the discharger has met the eligibility requirements for the permit.
4. If the Department notifies the applicant of deficiencies or inadequacies in any portion of the NOI (including the stormwater management program), the applicant must correct the deficient or inadequate portions and submit a written statement to the Department certifying that appropriate changes have been made. The certification must be submitted within the time-frame specified by the Department and must specify how the NOI has been amended to address the identified concerns.

B. Terminating Coverage.

1. A permittee may terminate coverage under this general permit by submitting a notice of termination (NOT). Authorization to discharge terminates at midnight on the day the NOT is signed.
2. A permittee shall submit an NOT to the Department within 30 days after the permittee:
 - a. Ceases discharging stormwater from the MS4,
 - b. Ceases operations at the MS4, or
 - c. Transfers ownership of or responsibility for the facility to another operator.
3. The NOT form can be obtained from the Department and must include the following information:
 - a. Name, mailing address, and location of the MS4 for which the notification is submitted;
 - b. The name, address and telephone number of the operator addressed by the NOT;
 - c. The NPDES or AZPDES permit number for the MS4;
 - d. An indication of whether another operator has assumed responsibility for the MS4, the discharger has ceased operations at the MS4, or the stormwater discharges have been eliminated; and
 - e. The following certification:

I certify under penalty of law that all stormwater discharges from the identified MS4 that are authorized by an AZPDES general permit have been eliminated, or that I am no longer the operator of the MS4, or that I have ceased operations at the MS4. I understand that by submitting this Notice of Termination I am no longer authorized to discharge stormwater under this general permit, and that discharging pollutants in stormwater to waters of the United States is unlawful under the Clean Water Act where the discharge is not authorized by an AZPDES permit. I also understand that the submission of this Notice of Termination does not release an operator from liability for any violations of this permit or the Clean Water Act.

- f. NOTs, signed in accordance with Part VI, Section L, must be sent to the Department at the following address:

Small MS4 NOT
Surface Water Permits Unit (5415 B)
Arizona Department of Environmental Quality
1110 West Washington
Phoenix, AZ 85007

PART III. NOTICE OF INTENT REQUIREMENTS

A. Deadlines for Notification.

1. MS4s automatically designated under R18-9-A905(A)(1)(f) are required to submit an NOI and a stormwater management program or apply for an individual permit by March 10, 2003.
2. MS4s designated under R18-9-A902(D)(1), R18-9-A902(D)(2), or R18-9-A902(E) are required to submit an NOI and a stormwater management program within 180 days of notice (unless the Department provides additional time in the designation notice).
3. New MS4s and New Operators
 - a. For new MS4s within urbanized areas which commence discharges subsequent to March 10, 2003, the NOI must be submitted not later than 30 days prior to commencing discharges.
 - b. For new operators of an existing MS4, the NOI must be submitted not later than two days prior to taking operational control of the MS4.
4. If a late NOI is submitted, the authorization is only for discharges that occur after permit coverage is granted. The Department reserves the right to take appropriate enforcement actions for any unpermitted discharges.

B. Contents of Notice of Intent. An applicant eligible for coverage under this general permit shall submit an NOI to discharge under this general permit. The NOI shall contain the following information:

1. The name, mailing address, and telephone number of the municipal entity applying;
2. An indication of whether the applicant is a federal, state, or other public entity;
3. The urbanized area or core municipality (if not located in an urbanized area) where the small MS4 is located; the county(ies) where the small MS4 is located, and the latitude and longitude of the approximate center of the small MS4;
4. The name of the major receiving water(s) and an indication of whether any of the receiving

waters are on the latest CWA section 303(d) list of impaired waters. If the small MS4 discharges to any 303(d) listed waters, include a certification that the SWMP meets the requirements of Part I, Section D.5;

5. An indication of whether all or a portion of the small MS4 is located in Indian country;
6. If the applicant is relying on another governmental entity to satisfy one or more permit obligations (see Part V, Section D), the identity of that entity(ies) and the element(s) the entity(ies) will be implementing;
7. The name and work position or title of the contact person;
8. The signature of the certifying official, signed in accordance with the signatory requirements of Part VI, Section L; and
9. A stormwater management program (SWMP), including best management practices (BMPs) that will be implemented and the measurable goals for each of the stormwater minimum control measures specified in Part V, Section B., the month and year in which the applicant will start and fully implement each of the minimum control measures or the frequency of the action, and the name of the person(s) responsible for implementing or coordinating the SWMP.
10. The following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. In addition I certify that the permittee will comply with all terms and conditions stipulated in General Permit No. AZG2002-002 issued by the Director.

- C. Where to Submit. The applicant shall submit the signed NOI to the Department at the following address:

Small MS4 NOI
Surface Water Permits Unit, 5415B
Arizona Department of Environmental Quality
1110 West Washington
Phoenix, AZ 85007

- D. Co-Permittees Under a Single NOI.

Any small MS4 that meets the requirements of Part I of this general permit may choose to partner with another regulated MS4 to develop and implement a SWMP. The MS4s may also jointly submit one NOI. If responsibilities are being shared as provided in Part V, Section D, the SWMP must describe which permittees are responsible for implementing each of the minimum measures. All small MS4 permittees are subject to the provisions in Part V, Section E.

PART IV. SPECIAL CONDITIONS

Total Daily Maximum Loads (TMDLs) Allocations Established after Permit Issuance. If a TMDL is established for any waterbody into which the permittee discharges prior to the date that the permittee or applicant submits an NOI, and if that TMDL includes a wasteload allocation or load allocation for a parameter likely to be

discharged by the MS4, the permittee must meet the requirements of the TMDL and/or its associated implementation plan. If a TMDL is approved for any waterbody into which the permittee discharges after the date that the permittee or applicant submits an NOI, the Department may require revisions to the SWMP to ensure that the wasteload allocation, load allocation and/or the TMDL's associated implementation plan will be met. Monitoring of the discharges may also be required, as appropriate, to ensure compliance with the TMDL.

PART V. STORMWATER MANAGEMENT PROGRAM (SWMP)

A. General Requirements. An applicant shall develop, and a permittee shall implement, and enforce a SWMP designed to reduce the discharge of pollutants from a small MS4 to the maximum extent practicable (MEP) to protect water quality. The SWMP shall include management practices; control techniques; system, design, and engineering methods; and other provisions the Department determines appropriate for the control of pollutants.

1. A permittee must fully implement the SWMP, including its measurable goals, no later than December 19, 2007 (except as provided under Part V, Section A.2).
2. If a permittee is required to obtain permit coverage after March 10, 2003, the permittee shall implement the SWMP, including its measurable goals, for the period between the date of authorization to discharge and the expiration date of this permit. For example, if the permittee was authorized to discharge under this permit on March 10, 2006 the measurable goals established in the SWMP for the period between 2006 and the expiration date of this general permit must be met.
3. The SWMP shall address each of the minimum control measures of Part V, Section B and must include measurable goals, including interim milestones, for each BMP, including as appropriate, the months and years in which the MS4 will undertake the required actions and the frequency of the action. The name and title of the person or persons responsible for implementing the SWMP shall also be included.
4. The permittee shall protect water quality by ensuring, to the maximum extent practicable, that no discharge shall cause or contribute to an exceedance of applicable water quality standard. To do so, the permittee shall fully implement all SWMP and permit requirements in accordance with the established time frames.

B. Minimum control measures.

1. Public Education and Outreach on Stormwater Impacts. The permittee or applicant, as applicable, shall:
 - a. Implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impact of stormwater discharges on waterbodies and the steps that the public can take to reduce pollutants in stormwater runoff.;
 - b. Include the following information in the SWMP:
 - i. A description of the education program and outreach activities;
 - ii. A description of the methods for disseminating information;
 - iii. The target audiences and target pollutants and sources that the applicant will address in the program, and how they were selected;
 - iv. An estimation of the number of people with whom the applicant intends to communicate;

- v. A list of measurable goals for the public education and outreach program;
 - vi. Dates, in terms of months and years, by which the permittee will achieve specific measurable goals
 - vii. The name(s) and title(s) of the person(s) responsible for implementing and coordinating the education activities.
2. Public Involvement/Participation. The permittee or applicant, as applicable, shall:
- a. Develop and implement a plan to encourage public involvement and participation in the development and implementation of the SWMP;
 - b. Comply with state and local public notice requirements when implementing the public involvement/participation program.
 - c. Include the following information in the SWMP:
 - i. A description of the general plan for informing the public of involvement and participation opportunities;
 - ii. The types of activities for public involvement that the program will include and the target audiences;
 - iii. A description of the procedure for receiving and reviewing public comments;
 - iv. An explanation of how interested parties may access the SWMP and NOI;
 - v. A list of measurable goals for the public involvement/participation program;
 - vi. Dates, in terms of months and years, by which the permittee will achieve specific measurable goals and;
 - vii. The name(s) and title(s) of the person(s) responsible for implementing and coordinating the public involvement/participation activities.
3. Illicit Discharge Detection and Elimination. The permittee or applicant, as applicable, shall:
- a. Develop, implement, and enforce a program to detect and eliminate illicit discharges into the small MS4, except those discharges listed below:
 - i. Non-stormwater discharges as listed in Part I, Section C.2 ; This exception does not apply to those categories of discharge which the permittee or applicant has determined to be a significant contributor of pollutants to the small MS4; or
 - ii. Occasional incidental non-stormwater discharges (e.g. non-commercial or charity car washes, etc.) that the permittee does not expect (based on information available to the permittee) to be a significant contributor of pollutants to the small MS4 because of either the nature of the discharges or conditions the permittee has established for allowing these discharges to the small MS4 (e.g., a charity car wash with appropriate controls on frequency, proximity to sensitive waterbodies, BMPs on the wash water, etc.).
 - b. Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls;

- c. To the extent allowable under state or local law, effectively prohibit through ordinance or other regulatory mechanism, non-stormwater discharges into the storm sewer system and implement appropriate enforcement procedures and actions;
 - d. Develop and implement a plan to detect, identify the source of, and address non-stormwater discharges, including illegal dumping, to the system;
 - e. Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste;
 - f. Conduct dry weather field screening for non-stormwater flows. The screening must include qualitative field tests based on color, odor, or visually observed characteristics as indicators of discharge sources. If the qualitative field tests do not provide enough information for the permittee to determine the source of the discharge, the permittee must test the discharge, while in the field, for selected chemical parameters. The permittee must investigate the illicit discharge within 15 days of its detection, and must follow up investigation with an action to further study the source of the discharge or eliminate it.
 - g. Include the following information in the SWMP:
 - i. A description of detection methods;
 - ii. A description or citation of the established ordinance or other regulatory mechanism used to prohibit illicit discharges. If the permittee needs to develop this mechanism, describe the plan and a schedule to do so.
 - iii. A description of enforcement policy and jurisdiction;
 - iv. A description of the non-stormwater discharges allowed in the small MS4 pursuant to Part V, Section B.3.a.i;
 - v. A description of the non-stormwater discharges allowed in the small MS4 pursuant to Part V, Section B.3.a.ii;
 - vi. The methods for informing/training employees about illicit discharges;
 - vii. The methods for informing the public of hazards associated with illegal discharges and improper disposal of waste;
 - viii. A list of measurable goals for the illicit detection and elimination program;
 - ix. Dates, in terms of months and years, by which the permittee will achieve specific measurable goals; and
 - x. The name(s) and title(s) of the person(s) responsible for implementing and coordinating illicit discharge detection and elimination activities.
4. Construction Site Stormwater Runoff Control. The permittee or applicant, as applicable, shall:
- a. Develop, implement, and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. If the Department waives requirements for

stormwater discharges associated with small construction activity, defined under 40 CFR 122.26(b)(15)(i), the permittee is not required to develop, implement, and/or enforce a program to reduce pollutant discharges from these sites;

- b. Using an ordinance or other regulatory mechanism available under the legal authorities of the small MS4, require construction site operators to practice erosion and sediment control and require construction site operators to control waste and properly dispose of wastes, such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality. This ordinance must apply, at a minimum, to those sites described in Part V, Section B.4.a.
 - c. Review all site plans for those sites described in Part V, Section B.4.a. for potential water quality impacts, including erosion and sediment control, control of other wastes, and any other impacts that must be examined according to the requirements of the law or ordinance of Part V, Section B.4.b. Before ground is broken at the construction site, the small MS4 operator shall review the plans and, verify (in written communication with the construction site operator) that the BMPs for the site are appropriate;
 - d. Develop and implement procedures for site inspection and enforcement of control measures for those sites described in Part V, Section B.4.a.;
 - e. Include the following information in the SWMP:
 - i. A description or citation of the established ordinance or other regulatory mechanism used to prohibit erosion and ensure proper management of wastes on construction sites per Part V, Section 4.b. If the permittee needs to develop the required regulatory mechanism, describe the plan and a schedule to do so;
 - ii. A description of the sanctions and enforcement mechanism(s) to ensure compliance;
 - iii. A description of the procedures for site inspection and enforcement of control measures, and procedures for site plan reviews;
 - iv. Procedures for receipt, acknowledgment and consideration of information submitted by the public,
 - v. A list of measurable goals for the construction site runoff control program;
 - vi. Dates, in terms of months and years, by which the permittee will achieve specific measurable goals; and
 - vii. The name(s) and title(s) of the person(s) responsible for overseeing construction site runoff control activities.
5. Post-Construction Stormwater Management in New Development and Redevelopment. The permittee or applicant, as applicable, shall:
- a. Develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, and discharge into the small MS4. The program must ensure that controls are in place that would prevent or minimize water quality impacts;

- b. Develop and implement strategies that include a combination of structural and/or non-structural BMPs appropriate for the community;
 - c. Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under the legal authorities of the small MS4;
 - d. Ensure adequate long-term operation and maintenance of BMPs; and
 - e. Include the following information in the SWMP:
 - i. A description of the management practices to reduce post-construction runoff from new development and redevelopment projects within the MS4; address any specific priority areas and tailor to the local community;
 - ii. A description or citation of the established ordinance or other regulatory mechanism used to address post-construction runoff control. If the permittee needs to develop the required regulatory mechanism, describe the plan and a schedule to do so;
 - iii. A description of the procedure to ensure compliance with local requirements;
 - iv. A description of the education program for developers, architects and the public about project designs that minimize water quality impacts;
 - v. An identification of the measurable goals for the post-construction runoff control program;
 - vi. Dates, in terms of months and years, by which the permittee will achieve specific measurable goals; and
 - vii. The name(s) and title(s) of the person(s) responsible for the development, implementation, and enforcement of post-construction stormwater management.
6. Pollution Prevention/Good Housekeeping for Municipal Operations. The permittee or applicant, as applicable, shall:
- a. Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations due to activities, including but not limited to, park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance. The permittee shall address the following topics in the program:
 - i. Maintenance activities, maintenance schedules, and long-term inspection procedures for controls to reduce floatables and other pollutants to the small MS4;
 - ii. Controls to reduce or eliminate the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas, and salt and sand storage locations and snow disposal areas; and
 - iii. Procedures to properly dispose of waste removed from the small MS4 and municipal operations, including dredge spoil, accumulated sediments, floatables, and other debris.

- b. Include the following information in the SWMP:
 - i. A list of the municipal operations impacted by this operation and maintenance program;
 - ii. A description of the training program for municipal employees
 - iii. A list of measurable goals for the municipal pollution prevention program;
 - iv. Dates, in terms of months and years, by which the permittee will achieve specific measurable goals; and
 - v. The name(s) and title(s) of the person(s) responsible for implementing and coordinating employee training and pollution prevention activities.
- C. Qualifying State or Local Program. The permittee may substitute the BMPs and measurable goals of an existing stormwater pollution control program to qualify for compliance with one or more of the minimum control measures if the existing measure meets the requirements of the minimum control measure as established in Part V, Section B.
- D. Sharing Responsibility. Implementation of one or more of the minimum measures may be shared with another entity, or the entity may fully take over the measure. A permittee may rely on another entity only if:
 - 1 The other entity, in fact, implements the control measure;
 - 2. The control measure, or component of that measure, is at least as stringent as the corresponding permit requirement;
 - 3. The other entity agrees to implement the control measure on the permittee's behalf. Written acceptance of this obligation is expected. The permittee shall maintain this obligation as part of the SWMP description. If the other entity agrees to report on the minimum measure, the permittee shall supply the other entity with the reporting requirements in Part V, Section G of this general permit. The permittee remains responsible for compliance with the permit obligations if the other entity fails to implement the control measure component.
- E. Reviewing and Updating SWMPs.
 - 1. The permittee shall annually review the SWMP in conjunction with preparation of the annual report required under Part V, Section G.
 - 2. The permittee may change the SWMP during the life of the permit according to the following procedures:
 - a. Changes adding (but not subtracting) components, controls, or requirements to the SWMP may be made at any time upon written notification to the Department;
 - b. Changes replacing an ineffective or infeasible management practice specifically identified in the SWMP with an alternate management practice may be made at any time, as long as the permittee submits a written analysis to the Department explaining why the management practice is ineffective or infeasible (including cost prohibitive), and why the replacement management practice is expected to achieve the goals of the management practice to be replaced;
 - c. Change notifications must be signed in accordance with Part VI, Section L;

3. The Department may notify a permittee that changes to the SWMP are necessary:
 - a. To address impacts on receiving water quality caused, or contributed to, by discharges from the MS4;
 - b. To include more stringent requirements necessary to comply with new federal or state statutory or regulatory requirements; and
 - c. If, at any time, the Department determines that the SWMP does not meet permit requirements.
4. The notification described above in Part V, Section E.3 will need to be addressed by the permittee in one of the following manners:
 - a. If the Department specifies changes that are to be made to the SWMP (including changes in implementation schedules), the permittee shall, within 60 days (or a later date if provided by the Department) certify that it has made changes as required by the Department. Changes must go into effect 30 days from the date the permittee certifies that changes have been made to the SWMP.
 - b. If the permittee proposes an alternative to the Department's required change (including changes in implementation schedule), the proposed alternative must be received by the Department within 60 days of notification of the required change. If the Department approves the proposed alternative, the changes to the SWMP must go into effect 30 days from the date the Department approved the proposal. If the Department does not approve the proposed alternative, the permittee must make changes to the SWMP as specified by the Department. Certification that changes have been made to the SWMP must be received within 60 days of the date the permittee received notification that the proposal had been rejected. Changes must go into effect 30 days from the date the permittee certifies that changes have been made to the SWMP.
5. Transfer of Ownership, Operational Authority, or Responsibility for SWMP Implementation. The permittee must implement the SWMP in all new areas added to the permittee's portion of the MS4 (or for which the permittee becomes responsible for implementation of stormwater quality controls) as expeditiously as practicable, but not later than one year from addition of the new areas. Implementation may be accomplished in a phased manner to allow additional time for controls that cannot be implemented immediately.
 - a. Within 90 days of a transfer of ownership, operational authority, or responsibility for SWMP implementation, the permittee must have a plan for implementing the SWMP in all affected areas. The plan may include schedules for implementation. Information on all new annexed areas and any resulting updates required to the SWMP must be included in the annual report.
 - b. Only those portions of the SWMP specifically required as permit conditions shall be subject to the modification requirements of 40 CFR 124.5. Addition of components, controls, or requirements by the permittee(s) and replacement of an ineffective or infeasible BMP implementing a required component of the SWMP with an alternate BMP expected to achieve the goals of the original BMP shall be considered minor changes to the SWMP and not modifications to the permit.

F. Monitoring.

1. The permittee must evaluate program compliance, the appropriateness of identified BMPs, and progress toward achieving identified measurable goals. If the permittee discharges to a water for which a TMDL has been established, the permittee must monitor to determine if the stormwater controls are adequate to maintain compliance with the MS4's

wasteload allocation or load allocation. If the permittee discharges to a 303(d) listed water that contains, or may contain, pollutant(s) for which the waterbody is listed, the permittee must monitor to determine if BMPs are effective to control discharges of pollutants of concern.

2. If the permittee conducts analytical monitoring at the permitted small MS4, the permittee must comply with the following:
 - a. *Representative monitoring.* Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
 - b. *Test Procedures.* Monitoring results shall be conducted according to test procedures approved in R18-9-A905(B) or other test procedures mutually agreed upon by the Director and the permittee or applicant.
 - c. *Discharge Monitoring Report.* Monitoring results must be reported on a Discharge Monitoring Report (DMR) when monitoring is performed in accordance with a TMDL requirement.
3. Records of analytical monitoring information shall include:
 - a. The date, exact place, and time of sampling or measurements;
 - b. The names(s) of the individual(s) who performed the sampling or measurements;
 - c. The date(s) analyses were performed;
 - d. The name(s) of the individual(s) who performed the analyses;
 - e. The analytical techniques or methods used; and
 - f. The results of such analyses.
4. Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit is subject to the enforcement actions established under A.R.S. Title 49, Chapter 2, Article 4, which may include the possibility of fines and/or imprisonment.

G. Annual Reports.

1. The permittee must submit annual reports to the Department for each year of the permit term. The first report is due September 30, 2004, covering the activities of the permittee during the period beginning on the effective date of the permit for the permittee and ending June 30, 2004. Subsequent annual reports are due on September 30 of each year following 2004 during the remainder of the term of the permit and must cover the activities of the permittee for the previous year up to and including June 30. The report must include:
 - a. The status of compliance with permit conditions, an assessment of the appropriateness of the identified best management practices, progress towards achieving the statutory goal of reducing the discharge of pollutants to the MEP and protecting water quality, and the measurable goals for each of the minimum control measures,
 - b. Results of information collected and analyzed, if any, during the reporting period, including monitoring data used to assess the success of the program at reducing the discharge of pollutants to the MEP;
 - c. Any changes made to the SWMP since the last annual report and a summary of the

stormwater activities the permittee plans to undertake during the next reporting cycle (including an implementation schedule);

- d. Proposed changes to the stormwater management program, including changes to any BMPs or any identified measurable goals that apply to the program elements;
 - e. A description of BMPs to be implemented within new areas annexed over the past year that are located within the regulated boundaries of the MS4;
 - f. A description and schedule for implementation of additional BMPs that may be necessary, based on monitoring results, to ensure compliance with applicable TMDLs; and
 - g. Notice that the permittee is relying on another government entity to satisfy some of the permit obligations (if applicable).
2. Where to Submit. Annual reports shall be signed in accordance with Part VI, Section L.2 and sent to the Department at the following address:

Arizona Department of Environmental Quality
Compliance Data Unit
1110 West Washington
Phoenix, AZ 85007

PART VI. STANDARD PERMIT CONDITIONS

A. Duty to Comply.

- 1. Failure to comply with any applicable term or condition of this permit shall be a violation of this permit and shall be grounds to enforcement action, permit termination, revocation and reissuance, or modification, or denial of a permit renewal application.
- 2. The issuance of this general permit does not waive any federal, state, county, or local regulations or permit requirements with which a permittee discharging under this general permit is required to comply.

B. Duty to Reapply. If a permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit.

C. Continuation of an Expired General Permit.

- 1. If the Director does not reissue this general permit before the expiration date, the current general permit will be administratively continued and remain in force and effect until the general permit is reissued.
- 2. Any permittee granted general permit coverage before the expiration date automatically remains covered by the continued general permit until the earlier of:
 - a. Reissuance or replacement of the general permit, at which time the permittee shall comply with the NOI conditions of the new general permit to maintain authorization to discharge; or
 - b. The date the permittee has submitted a Notice of Termination; or
 - c. The date the Director has issued an individual permit for the discharge; or
 - d. The date the Director has issued a formal permit decision not to reissue the general permit, at which time the permittee shall seek coverage under an alternative general permit or an individual permit.

3. Upon reissuance of a new general permit, the permittee shall file an NOI, within 60 days of the effective date of the new general permit.
- D. Need to Halt or Reduce an Activity Is Not a Defense. It is not a defense for a permittee in an enforcement action to plead that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this general permit.
- E. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this general permit that has a reasonable likelihood of adversely affecting human health or the environment.
- F. Proper operation and maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the conditions of the permittee's SWMP. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
- G. Permit actions.
 1. This general permit may be reopened (in accordance with A.A.C. R18-9-A905(3)(a) which incorporates 40 CFR 122.41(f)) to address any changes in state or federal plans, policies, or regulations that would affect the quality requirements for the discharge.
 2. This general permit may be modified by the Director before the expiration date to include discharge or receiving water limitations for toxic constituents determined to be present in significant amounts in the discharge.
 3. This general permit may be modified, revoked and reissued, or terminated for cause.
 4. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.
- H. Property Rights. The issuance of this general permit does not convey any property rights or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, Indian tribe, or local laws or regulations.
- I. Duty to Provide Information. The permittee must promptly furnish the Department with the following information:
 1. Upon request, any information that the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this general permit, or to determine compliance with this general permit.
 2. Upon request, copies of records required by this general permit.
 3. In the event that the permittee becomes aware that the permittee failed to submit any relevant facts in the NOI or submitted incorrect information in the NOI or in any other report to the Department, such facts or information.
- J. Inspection and Entry. The permittee shall allow the Director or the Director's designee, upon presentation of credentials and other documents as required by law, to:
 1. Enter the permittee's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this general permit;

2. Have access to and copy, at reasonable times, any records required by this general permit;
3. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this general permit; and
4. Sample or monitor, at reasonable times, to assure permit compliance or as otherwise authorized under A.R.S. Title 49, Chapter 2, Article 3.1, and A.A.C. Title 18, Chapter 9, Articles 9 and 10, any substances or parameters at any location.

K. Recordkeeping.

1. The permittee shall retain records of all monitoring information, including, all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, copies of Discharge Monitoring Reports (DMRs), a copy of the NPDES or AZPDES permit, and records of all data used to complete the application (NOI) for this permit, for a period of at least three years from the date of the sample, measurement, report or application, or for the term of this permit, whichever is longer. This period may be extended at the request of the Department at any time.
2. The permittee shall submit its records to the Department only when specifically asked to do so. The permittee must retain the SWMP required by this permit (including a copy of the permit language) at a location accessible to the Department. The permittee must make its records, including the notice of intent (NOI) and the SWMP, available to the public.

L. Signatory Requirements. All NOIs, NOTs, reports required by the general permit, and other information requested by the Director shall be signed as follows:

1. NOIs and NOTs:
 - a. For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official.
2. Reports and other information.
 - a. All reports required by this general permit and other information requested by the Department or authorized representative of the Department shall be signed by a person described in Part VI, Section L.1 or by a duly authorized representative of that person.
 - b. A person is a duly authorized representative only if the authorization is made in writing by a person described in Part VI, Section L.1. The authorization shall specify either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the permittee.
3. Changes to Authorization. If the information on the NOI filed for general permit coverage is no longer accurate because a different operator has responsibility for the overall operation of the facility, a new authorization satisfying the requirement of Part VI, Section L.2.b. above must be submitted to the Department prior to or together with any reports, information, or notices of intent to be signed by an authorized representative.
4. Certification. Any person (as defined above in Part VI, Sections L.2.a and L.2.b) signing documents under this Section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure

that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

M. Reporting.

1. Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.
2. Transfers. This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate other requirements that may be necessary to comply with the permit. (In some cases, modification or revocation and reissuance is mandatory.)
3. Other information. When the permittee becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the NOI or in any other report to the Director, the permittee shall promptly submit the facts or information.

N. Severability. The provisions of this general permit are severable, and if any provision of this general permit, or the application of any provision of this general permit to any circumstance, is held invalid, the application of the provision to other circumstances, and the remainder of this general permit shall not be affected.

O. Requiring Coverage Under an Individual Permit.

1. The Director may require a person authorized by a general permit to apply for and obtain an individual permit for any of the following cases:
 - a. A change occurs in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source;
 - b. Effluent limitation guidelines are promulgated for point sources covered by the general permit;
 - c. An Arizona Water Quality Management Plan containing requirements applicable to the point sources is approved;
 - d. Circumstances change after the time of the request to be covered so that the discharger is no longer appropriately controlled under the general permit, or either a temporary or permanent reduction or elimination of the authorized discharge is necessary;
 - e. If the Director determines that the discharge is a significant contributor of pollutants. When making this determination, the Director shall consider:
 - i. The location of the discharge with respect to waters of the United States,
 - ii. The size of the discharge,
 - iii. The quantity and nature of the pollutants discharged to waters of the United States, and
 - iv. Any other relevant factor.

2. If an individual permit is required, the Director shall notify the discharger in writing of the decision. The notice shall include:
 - a. A brief statement of the reasons for the decision,
 - b. An application form,
 - c. A statement setting a deadline to file the application,
 - d. A statement that on the effective date of issuance or denial of the individual permit, coverage under the general permit will automatically terminate,
 - e. The applicant's right to appeal the individual permit requirement with the Water Quality Appeals Board under A.R.S. § 49-323, the number of days the applicant has to file a protest challenging the individual permit requirement, and the name and telephone number of the Department contact person who can answer questions regarding the appeals process; and
 - f. The applicant's right to request an informal settlement conference under A.R.S. §§ 41-1092.03(A) and 41-1092.06.
3. The discharger shall apply for an individual permit within 90 days of receipt of the notice, unless the Director grants a later date. In no case shall the deadline be more than 180 days after the date of the notice.
4. If the permittee fails to submit the individual permit application within the time period established in Part V, Section Q.3, the applicability of the general permit to the permittee is automatically terminated at the end of the day specified by the Director for application submittal.
5. Coverage under the general permit shall continue until an individual permit is issued unless the general permit coverage is terminated under Part V, Section Q.4.

P. Request For an Individual Permit.

1. An owner or operator authorized by a general permit may request an exclusion from coverage of a general permit by applying for an individual permit.
 - a. The owner or operator shall submit an individual permit application under R18-9-B901(B) and include the reasons supporting the request no later than March 10, 2003.
 - b. The Director shall grant the request if the reasons cited by the owner or operator are adequate to support the request.
2. If an individual permit is issued to an owner or operator otherwise subject to a general permit, the applicability of the general permit to the discharge is automatically terminated on the effective date of the individual permit.

- Q. Other Environmental Laws. No condition of this general permit releases the permittee from any responsibility or requirements under other environmental statutes or regulations. For example, this permit does not authorize the "take" of endangered or threatened species as prohibited by section 9 of the Endangered Species Act, 16 U.S.C. 1538. Information regarding the location of endangered and threatened species and guidance on what activities constitute a "take" are available from the U.S. Fish and Wildlife Service.

PART VII. PENALTIES FOR VIOLATIONS OF PERMIT CONDITIONS

Any permit noncompliance constitutes a violation and is grounds for an enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application.

- A. Civil Penalties. A.R.S. § 49-262(C) provides that any person who violates any provision of A.R.S. Title 49, Chapter 2, Article 2, 3 or 3.1 or a rule, permit, discharge limitation or order issued or adopted under A.R.S. Title 49, Chapter 2, Article 3.1 is subject to a civil penalty not to exceed \$25,000 per day per violation.
- B. Criminal Penalties. Any a person who violates a condition of this general permit, or violates a provision under A.R.S. Title 49, Chapter 2, Article 3.1, or A.A.C. Title 18, Chapter 2, Articles 9 and 10 is subject to the enforcement actions established under A.R.S. Title 49, Chapter 2, Article 4, which may include the possibility of fines and/or imprisonment.

PART VIII. DEFINITIONS

In addition to the definitions contained in A.R.S. 49-255 and A.A.C. R18-9-A901, all definitions contained in section 502 of the Act and 40 CFR 122 shall apply to this permit and are incorporated herein by reference. For convenience, simplified explanations of some regulatory/statutory definitions have been provided, but in the event of a conflict, the definition found in the statute or regulation takes precedence.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Control Measure as used in this permit, refers to any Best Management Practice or other method used to prevent or reduce the discharge of pollutants to waters of the United States.

CWA means the Clean Water Act or the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq.

Department as used in this permit, means the Arizona Department of Environmental Quality.

Discharge when used without qualification means the discharge of a pollutant,

Discharge of a Pollutant means

1. Any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source," or
2. Any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a state, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any "indirect discharger."

Discharge-related activities include: activities which cause, contribute to, or result in stormwater point source pollutant discharges; and measures to control stormwater discharges, including the siting, construction and operation of best management practices (BMPs) to control, reduce or prevent stormwater pollution.

Facility means any NPDES or AZPDES point source or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the NPDES or AZPDES program.

Illicit connection means any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.

Illicit discharge means any discharge to a municipal separate storm sewer that is not composed entirely of stormwater except discharges pursuant to a NPDES or AZPDES permit (other than the NPDES or AZPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities,

Indian country means:

1. All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation;
2. All dependent Indian communities within the borders of the United States whether within the originally or subsequently acquired territory thereof, and whether within or without the limits of a state; and
3. All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same. This definition includes all land held in trust for an Indian tribe.

Large or Medium Municipal Separate Storm Sewer System means all municipal separate storm sewers as defined at 40 CFR 122.26(b)(4) or (7)

MEP means maximum extent practicable, the technology-based discharge standard for municipal separate storm sewer systems to reduce pollutants in stormwater discharges. A discussion of MEP as it applies to small MS4s is found at 40 CFR 122.34. CWA section 402(p)(3)(B)(iii) requires that a municipal permit shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system design, and engineering methods, and other provisions that the state determines appropriate for the control of such pollutants.

Measurable goal means a quantitative measure of progress in implementing a component of a stormwater management program.

MS4 means municipal separate storm sewer system.

Municipal separate storm sewer means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, and storm drains):

1. Owned or operated by a state, city, town, county, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or a designated and approved management agency under section 208 of the Clean Water Act (33 U.S.C. 1288) that discharges to waters of the United States;
2. Designed or used for collecting or conveying stormwater;
3. That is not a combined sewer; and
4. That is not part of a publicly owned treatment works.

NOI means Notice of Intent to be covered by this permit (see Part II).

NOT means Notice of Termination.

Outfall means a point source as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States,

Owner or operator means the owner or operator of any facility or activity subject to regulation under the NPDES program.

Point source means any discernible, confined, and discrete conveyance, including but not limited to,

any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

Pollutant is defined at R18-9-A901(22). A partial listing from this definition includes: dredged spoil, solid waste, sewage, garbage, sewage sludge, chemical wastes, biological materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial or municipal waste.

Significant contributors of pollutants means any discharge that causes or could cause or contribute to a violation of surface water quality standards.

Small Municipal Separate Storm Sewer System all separate storm sewers that are:

- 1 Owned or operated by the United States, a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;
- 2 Not defined as large or medium municipal separate storm sewer systems in accordance with this permit;
- 3 This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

Stormwater means stormwater runoff, snow melt runoff, and surface runoff and drainage.

Stormwater Management Program (SWMP) means a comprehensive program to manage the quality of stormwater discharged from the municipal separate storm sewer system.

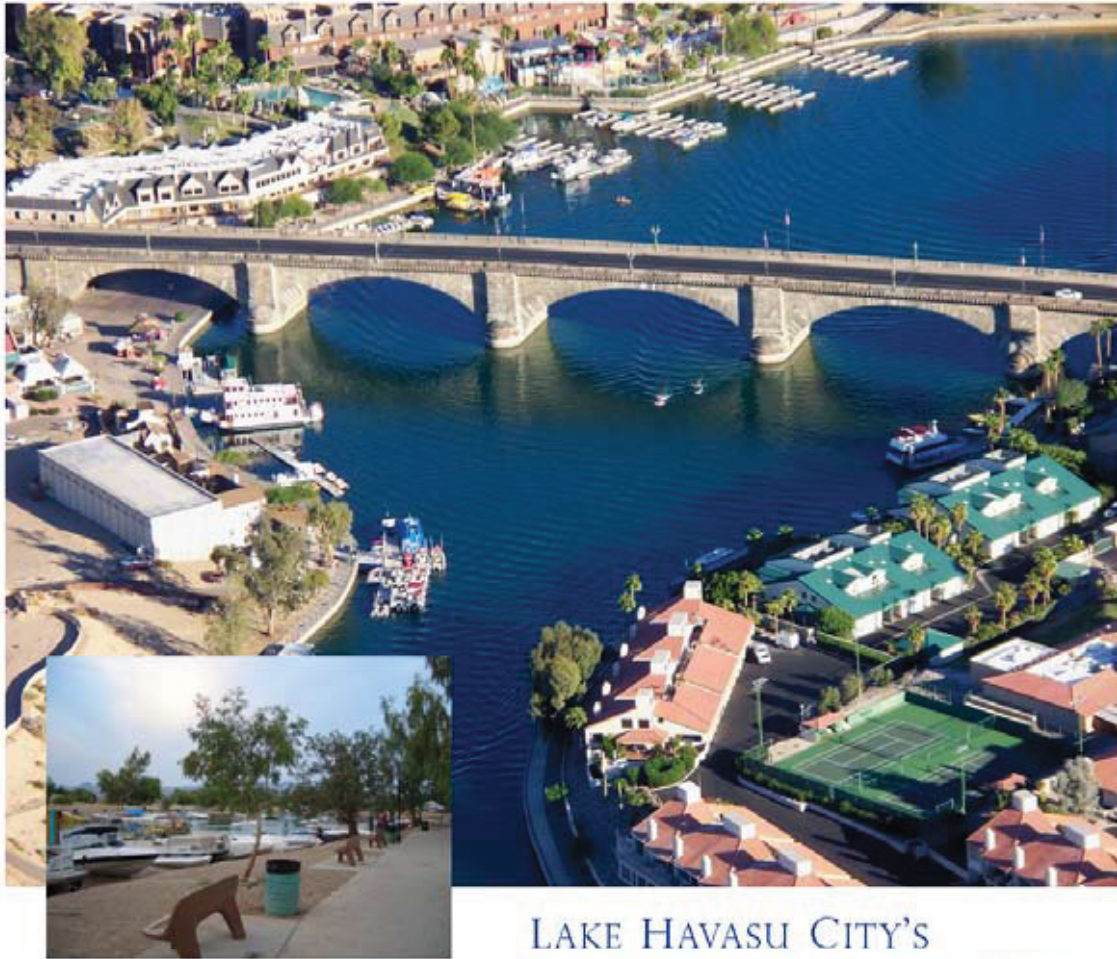
Waters of the United States which is interchangeable with the term “navigable waters” means:

1. All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters, including interstate wetlands;
3. All other waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
 - a. Which are or could be used by interstate or foreign travelers for recreational or other purposes;
 - b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - c. Which are used or could be used for industrial purposes by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the United States under this definition;
5. Tributaries of waters identified in paragraphs (1) through (4) of this definition;
6. The territorial sea; and
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs 1. through 6. of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds for steam electric generation stations per 40 CFR 423, which also meet the criteria of this definition) are not waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the

purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

SWMP



LAKE HAVASU CITY'S STORMWATER MANAGEMENT PROGRAM

This report is prepared in accordance to the requirements in the Small MS4 General Permit AZG2002-002 set forth by the Arizona Department of Environmental Quality (ADEQ).

LAKE HAVASU CITY
PUBLIC WORKS DEPARTMENT
(928) 453-6660



STORMWATER MANAGEMENT PROGRAM



1.0: Introduction

2.0: Minimum Control Measures (MCMs)

- 2.1: Public Education & Outreach:
 - 2.1.1: Distribution of Educational Materials about Stormwater
 - 2.1.2: Publish Stormwater Materials on City's website
- 2.2: Public Involvement/Participation:
 - 2.2.1: Continue the Household Hazardous Waste Dump Day
 - 2.2.2: Continue Keep Havasu Beautiful Spring Clean Up
 - 2.2.3: Update the City Council on the City's SWMP Annually
 - 2.2.4: Coordinate a River/Wash Volunteer Cleanup Day
- 2.3: Illicit Discharge Detection & Elimination:
 - 2.3.1: Review and/or Develop City Ordinances
 - 2.3.2: Create an Outfall Inspection Program
 - 2.3.3: Develop & Distribute Educational Materials on Illicit Discharges
- 2.4: Construction Site Runoff Controls:
 - 2.4.1: Adopt an Erosion & Sediment Control Ordinance
 - 2.4.2: Develop Policies & Procedures for Plan Review
 - 2.4.3: Develop & Adopt Technical Guidance Materials
 - 2.4.4: Develop a Construction Site Inspection & Enforcement Program
- 2.5: Post-Construction Site Runoff Control:
 - 2.5.1: Develop & Adopt a Post-Construction Stormwater Runoff Ordinance
 - 2.5.2: Develop & Adopt Technical Guidance Materials
 - 2.5.3: Develop Policies & Procedures for Plan Review
- 2.6: Pollution Prevention/Good Housekeeping:
 - 2.6.1: Evaluate Street Sweeping Policies & Procedures
 - 2.6.2: Train City Employees about Pollution Prevention
 - 2.6.3: Develop & Implement a Municipal Pollution Prevention Program

3.0: Definitions

4.0: Acronyms & Abbreviations

STORMWATER MANAGEMENT PROGRAM



1.0: Introduction

Lake Havasu City has completed this second generation Stormwater Management Program (SWMP) to establish a more useful and up-to-date guide for the future of stormwater management activities throughout the city. This second generation SWMP builds on the City's 2003 SWMP and satisfies the remarks sent by the Arizona Department of Environmental Quality (ADEQ) in their letter dated August 14th, 2007. The program specifically considers the six Minimum Control Measures (MCMs) outlined in the ADEQ General Permit AZG2002-002 for small municipal storm sewer systems (MS4).

The best management practices (BMPs) presented here has been proposed because they address the MCMs, are appropriate for the City of Lake Havasu City's stormwater system, are measurable, are anticipated to make significant improvements in the City's stormwater quality and are achievable. For each BMP, achievable and appropriate goals are delineated along with a schedule indicating frequency of action items, objectives, and a date by which the BMP shall be implemented and established.

STORMWATER MANAGEMENT PROGRAM



2.0: Stormwater Management Plan (SWMP)

2.1: Public Education & Outreach

The purpose of this public education and outreach program is to encourage, educate and involve the citizens of Lake Havasu City in the SWMP. In order to reach citizens with targeted messages regarding the City's SWMP and their role in it, the City will employ educational materials such as pamphlets, brochures and Lake Havasu City's website for an additional location for educational materials.

The targeted pollutants of this SWMP are floatable, including trash, sewage, and illicit discharges including greases and oils. The target audience will be both the City's residents and the large seasonal population. It is estimated that this education program will reach 30,000 people annually. This anticipated public education program represents 54% of the fulltime residents of Lake Havasu City.

An educated public can make significant reduction in targeted pollutants outlined in the Lake Havasu City Stormwater Management Plan.

Responsible Department: Public Works Engineering/Admin. Division
Finance Department

Responsible Position: Jeff LeMire, Public Works Project Manager
Charlene Yarno, Finance Department

STORMWATER MANAGEMENT PROGRAM



2.1.1: Distribute Educational Materials about Stormwater

Lake Havasu City, as part of its public education and outreach activities, will distribute printed educational materials to the City residents. These materials, are an effective medium for educating the general public (including school children), may be procured from the permitting authority or will be generated in-house.

Permit Requirement Citation: Part V, Section B.1.a

Activity: Distribute educational materials via brochures and pamphlets about storm water to City residents.

Objectives: Educate the general public on the City's SWMP and raise general awareness of action the public can take to help protect water quality and minimize impacts of stormwater runoff. They will also provide a number and address for the citizens to contact for questions.

Interim Steps and Schedule:

Produce Educational Materials	June 24, 2007 Completed
Distribute Educational Materials	November 9, 2007- Ongoing
Utility Billing Mailing	January 1, 2008- Completed

Measurable Goals: Printed educational materials will be available to the general public at City Hall, Library, Police and Fire Stations, as well as the City's official website. Brochures will also be distributed to Neighborhood Watch Programs and other community organizations. Brochures will always be available on request through the Public Works Department located at City Hall. Utility billing mailings will also be used periodically and will reach 28,000 people.

STORMWATER MANAGEMENT PROGRAM



2.1.2: Publish Storm Water Materials on City's website

Lake Havasu City, as part of its public education and outreach activities, will maintain and add stormwater program information to the City's website. This will be a cost-effective and practicable way for the City to provide storm water information to the general public.

Permit Requirement Citation: Part V, Section B.1.a

Activity: Implement, maintain, and update as necessary storm water educational materials via Lake Havasu City's website. Links to other appropriate web pages (ADEQ and the EPA) and contact information for the city's contact person.

Objectives: To provide a web base informational section on Lake Havasu City's website to discuss the City's SWMP and local storm water issues.

Interim Steps and Schedule:

Research/Develop Materials	June 24, 2007 Completed
Public Information added to Website	November 29, 2007 Completed
Update Website Materials	Ongoing- Annually

Measurable Goals: To provide useful information on local storm water issues, including a copy of the SWMP and links to other resources. Lake Havasu City will also track the number of hits during the period of operation, as well as updating the information to keep current with the AZPDES general permit.

STORMWATER MANAGEMENT PROGRAM



2.2: Public Involvement & Participation

Public Involvement differs from public education in that it empowers the public and codifies the involvement of the public with the municipality to achieve a unified common goal. Lake Havasu City believes that it is important to have the public's support behind the SWMP at the local level. Lake Havasu City complies with public notice requirements by offering an opportunity for the public to give advice and guidance on the BMPs and the overall SWMP. During the renewal process of this permit the City will provide an opportunity for the public to provide input into the SWMP for the next permit cycle. For public accessibility, the City will post a copy of its SWMP and Notice of Intent (NOI) on the City's website. Annual reports will also be available to the public through the Public Works Department.

Lake Havasu is committed to involving the residents of the city to participate in the SWMP process. It is Lake Havasu City's experience that many residents and seasonal residents are dedicated to providing input and willing to serve as volunteers.

Responsible Department: Public Works Engineering/Admin. Division
Lake Havasu City Fire Department

Responsible Position: Jeff LeMire, Public Works Project Manager

STORMWATER MANAGEMENT PROGRAM



2.2.1: Continue Compliance with State & Local Public Notice Requirements

The City already complies with state and local Public notice requirements.

Permit Requirement Citation: Part V, Section B.2.b

Activity: Comply with public notice requirements for any newly created or revised ordinances; public discussion of the SWMP and NOI with the City or any other opportunity for public input into the program.

Objectives: Make the public aware of new ordinances and allow the public to participate in adopting ordinances dealing with the SWMP.

Interim Steps and Schedule:

Continue Compliance	Ongoing
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Measurable Goals: Continue compliance of public notice requirements document public meetings, notices provided, comments and input received, and report annually to the state.

STORMWATER MANAGEMENT PROGRAM



2.2.2: Continue the Household Hazardous Waste Dump Day

Lake Havasu City has held and continues to hold an annual House Hold Hazardous Waste Dump Day Sponsored by the LHCFD for a number of years. This event provides recycling for household items, garage, and garden chemicals, oils and other hazardous materials.

Permit Requirement Citation: Part V, Section B.2.c.ii

Activity: Continue to provide this project annually to keep Lake Havasu City clean and safe.

Objectives: To provide a service to residents to dispose of hazardous materials in a safe matter.

Interim Steps and Schedule:

House Hold Hazardous Waste Dump Day	Held annually in March
Continue City Participation	Ongoing

Measurable Goals: To help prevent illegal dumping of hazardous materials within Lake Havasu City. LHCFD will provide detailed information on the quantity of materials collected. If there are any questions regarding hazardous materials please contact the Lake Havasu City Fire Department at (928)855-1141.

STORMWATER MANAGEMENT PROGRAM



2.2.3: Continue Keep Havasu Beautiful Spring Clean Up

The Keep Havasu Beautiful Organization and Lake Havasu City host an annual Spring Cleanup Day. This event provides recycling for furniture, wood, tree/brush trimmings, and appliances.

Permit Requirement Citation: Part V, Section B.2.c.ii

Activity: Continue to provide this project annually to keep Lake Havasu City clean and safe.

Objectives: To provide a service to residents to dispose of furniture, wood, tree/brush trimmings, and appliances in a safe matter.

Interim Steps and Schedule:

Keep Havasu Beautiful Spring Cleanup	Completed Annually
Continue City Participation	Ongoing

Measurable Goals: To help prevent illegal dumping of materials into Lake Havasu City's washes and other undeveloped areas.

STORMWATER MANAGEMENT PROGRAM



2.2.4: Update the City Council on the City's SWMP Annually

The City intends to update the City Council each year in an effort to educate the Council and maintain community support.

Permit Requirement Citation: Part V, Section B.2.a

Activity: Update the City Council annually on the status of the SWMP's development and implementation and especially during the renewal process.

Objectives: Educate and involve the City Council and public in developing and implementing the SWMP.

Interim Steps and Schedule:

Provide a Council Update on SWMP	November 27, 2007 Completed
Continue Council Update on SWMP	Annually

Measurable Goals: Update the Lake Havasu City Council annually, to provide input into the annual report and for any amendments to the SWMP. Comments from Council and general public will be reported in the annual report.

STORMWATER MANAGEMENT PROGRAM



2.2.5: Coordinate a River/Wash Volunteer Cleanup Day

Lake Havasu City partners with its residents to conduct volunteer trash pickups along the Colorado River and the numerous washes throughout town. These events can be used to monitor floatable or other debris in the storm system and outfalls.

Permit Requirement Citation: Part V, Section B.2.c.ii

Activity: Distribute storm water educational materials to volunteers participating in cleanup.

Objectives: Involve the general public in volunteer stormwater activities, including visual inspections of outfalls. *Participating agencies include: Boy Scout of America, Girl Scouts of America, and Neighborhood Watch Groups.*

Interim Steps and Schedule:

River/Wash/Neighborhood Cleanup Event	
Continue River/Wash Cleanup Event	Annually

Measurable Goals: To cleanup outfall areas and washes within Lake Havasu City. Use this to monitor location and concentration of debris and floatable pollutants on an annual basis.

STORMWATER MANAGEMENT PROGRAM



2.3: Illicit Discharge Detection & Elimination

Lake Havasu City recognizes the potential for Illicit Discharges to its MS4 and is committed to detecting the problem areas. Lake Havasu City Codes and ordinances reference garbage, refuse, disposal and nuisance's specific to the City's MS4. Lake Havasu City will review Codes and ordinances dealing with Illicit Discharges.

Currently, Lake Havasu City, through the LHCFD, has adopted the 1997 Uniform Fire Code and the LHCPD has received training through "Western States Hazardous Waste Project" (Appendices C). These directly address the issues of environmental crimes. Lake Havasu City also utilizes "Arizona Criminal Law and Motor Vehicle Handbook" and City ordinances for further guidance. Lake Havasu City has adopted a zero tolerance policy for illicit discharge of any pollutants within the City boundaries. Lake Havasu City will continue to receive training in enforcement and update their methods of detection as the Standard Operating Procedures (SOP's) are reviewed. Lake Havasu City currently conducts random non-storm water discharges as a result of the operations. These non-storm water discharges as listed in Part I, Section C2 of the general permit are not considered to be a significant contributor of pollutants to or from the MS4. Following are additional regulations utilized by Lake Havasu City and are attached for reference:

- **A.R.S. TITLE 49 "THE ENVIRONMENT"**
- **§ 13-1603 CRIMINAL LITTERING AND POLLUTION**
- **UNIFORM FIRE CODE UFC § 8001.5 ~ § 8001.5.2.5.**
- **LHC § 9.16.110 LITTERING**
- **LHC § 8.04.030 CONSTRUCTION LITTERING**

Lake Havasu City will also implement enforcement strategies, which will prohibit the discharge of non-stormwater into the public drainage system and identification of non-stormwater discharges that are allowable.

Lake Havasu City will utilize the following detection methods:

1. Dry weather monitoring of outfalls
2. Field Inspections: Implement a report for Public Works, Code Enforcement, Parks, and Building Inspectors to use in reporting any illicit discharge or illegal dumping to the MS4.
3. Lake Havasu City will keep documents of dry-weather monitoring, inspection reports, and complaints by citizens.

STORMWATER MANAGEMENT PROGRAM



Through the Public Education Minimum Control Measure, the City will educate the public and City Employees on the hazards of illegal discharges and dumping in the drainage system. The following discharges, which are listed as Part I, Section C.2. of the AZPDES Small MS4 General Permit are allowable non-stormwater discharges:

1. Water Line Flushing
2. Landscape Irrigation
3. Diverted Stream Flows
4. Rising ground water
5. Rising Ground Water
6. Uncontaminated ground water infiltration
7. Uncontaminated pumped groundwater
8. Discharges from potable water sources
9. Foundation drains
10. Air Conditioning condensation
11. Irrigation water
12. Springs
13. Water from crawl space pumps
14. Footing Drains
15. Lawn Watering
16. Individual residential car washing
17. Discharge from riparian habitats and wetlands
18. Street wash water
19. Discharges or flows from emergency fire fighting activities

Responsible Department: Public Works Department

Responsible Position: Jeff LeMire, Public Works Project Manager

STORMWATER MANAGEMENT PROGRAM



2.3.1: Review and/or Develop City Ordinances

Lake Havasu City has adopted different Codes and Ordinances dealing with Illicit Discharges and a review and/or update of those Codes and Ordinances to address all requirements outlined in the AZPDES. These ordinances and codes will form the basis for the overall illicit-discharge-elimination program.

Permit Requirement Citation: Part V, Section B.3.a. and V.B.3.c

Activity: Review, develop and finalize City Codes and Ordinances that prohibit illicit discharges to Lake Havasu City's stormwater system.

Objectives: To seek out and eliminate illicit discharges to the stormwater system in Lake Havasu City. Define and prohibit illicit discharges to the MS4. Allow the right of entry and inspection to find illicit discharges within the city. To establish penalties for dumping, spills, and willful illicit connections to the City's MS4.

Interim Steps and Schedule: Review, develop and adopt codes and ordinances.

Review Codes/Ordinances	June 25, 2007 Completed
Continue Council Update on SWMP	Annually

Measurable Goals: Adopt a Code or Ordinance with enforcement strategies, such as fines or imprisonment that prohibits illicit discharges to the City's MS4. These will empower the City to take action to detect and eliminate illicit discharges and to address illegal dumping into the MS4 and provide for corrective actions.

STORMWATER MANAGEMENT PROGRAM



2.3.2: Create an Outfall Inspection Program

Lake Havasu City intends to inspect all stormwater outfalls during dry weather as a part of the overall program to detect and eliminate illicit discharges. Illicit discharges found during inspection will be followed up and eliminated.

Permit Requirement Citation: Part V, Section B.3.f.

Activity: Inspect stormwater outfalls during dry weather to identify outfalls and determine the possible existence of illicit discharges or illegal dumping activities.

Objectives: Develop inspection procedures and identify possible illicit discharges to the City's stormwater system and investigate the point source of such discharges for the purpose of eliminating illicit discharges.

Interim Steps and Schedule:

Develop Inspection Procedures	November 30, 2007
Inspect Outfalls to Lake Havasu	December 2007
Continue Annual Inspection	Ongoing

Measurable Goals: Perform dry weather outfall inspections of all known stormwater outfalls by December 2007. Initiate investigation of illicit discharges and illegal dumping activities within one work week of discovery.

STORMWATER MANAGEMENT PROGRAM



2.3.3: Develop & Distribute Educational Materials On Illicit Discharges

Lake Havasu City intends to develop and distribute educational materials on illicit discharges to the public. The educational materials will target the residential population and will cover topics such as how to correctly maintain septic systems and dispose of household hazardous materials.

Permit Requirement Citation: Part V, Section B.3.e.

Activity: Procure educational materials regarding the hazards of illegal discharges to the stormwater system and distribute them to the public, utilizing educational tools developed under the public outreach and education sections of this SWMP.

Objectives: Inform the public of hazards associated with illegal discharges to the stormwater system.

Interim Steps and Schedule:

Develop Materials	June 1, 2007 Completed
Distribute Materials	November 26, 2007 Completed

Measurable Goals: Generate or procure educational materials regarding illegal discharges and distribute these materials utilizing the methods identified under Public Outreach and Education within this SWMP.

STORMWATER MANAGEMENT PROGRAM



2.4: Construction Site Runoff Controls

Lake Havasu City recognizes that a stormwater runoff control program is needed in the city with the development of state lands and new subdivisions being constructed. ADEQ administers the Construction General Permit in Lake Havasu City. Through this SWMP Lake Havasu City will develop and adopt an erosion and sediment control ordinance, with policies and procedures for plan reviews, technical guidance materials, inspection and enforcement program, and educational materials for the development of the community.

Responsible Department: Public Works Engineering/Admin. Division

Responsible Position: Jeff LeMire, Public Works Project Manager

STORMWATER MANAGEMENT PROGRAM



2.4.1: Adopt an Erosion & Sediment Control Ordinance

Lake Havasu City will adopt an erosion and sediment control ordinance that will form the basis of the City's construction site runoff control program. The ordinance will address construction site waste management as well as the other components listed in the AZPDES permit language.

Permit Requirement Citation: Part V, Section B.4.b.

Activity: Establish an enforceable City ordinance to require erosion and sediment runoff controls at construction sites that disturb one or more acres. The ordinance shall also include site waste management requirements.

Objectives: Reduce polluted stormwater runoff from construction sites that disturb one acres or more as described in the General Permit Part V, Section B.4.

Interim Steps and Schedule:

Review, Research Ordinances	June 1, 2007 Completed
Draft Ordinance & Implement	December 19, 2007

Measurable Goals: Adoption of a construction site management control program including necessary ordinances, with enforcement strategies such as fines or imprisonment. Site inspection and evaluation of recurring problems and issues, recommended changes for the regulatory process shall be considered prior to renewal of permit.

STORMWATER MANAGEMENT PROGRAM



2.4.2: Develop Policies & Procedures for Plan Review

Once Lake Havasu City adopts the ordinance, City staff must begin to review plans for sites which result in a land disturbance of one acre or more complying with the ordinance. The City will develop written policies and procedures that address plan reviews and will train plan review staff.

Permit Requirement Citation: Part V, Section B.4.c.

Activity: Develop and implement policies and procedures for stormwater runoff control plan review and integrate them into existing plan review process.

Objectives: To ensure that construction site runoff is addressed before the City issues a construction permit and that SWPPP and AZDPES permits are followed during construction.

Interim Steps and Schedule:

Develop Policies & Procedures	December 19, 2007
Implement Policies & Procedures	December 19, 2007

Measurable Goals: Develop plan policies and procedures for review of stormwater runoff control policies and procedures. Include permit evaluation of plan review process in overall program evaluation prior to renewal of permit, making adjustments as needed to effectively administer this program.

STORMWATER MANAGEMENT PROGRAM



2.4.3: Develop & Adopt Technical Guidance Materials

Lake Havasu City intends to develop and distribute technical guidance materials that define the design requirements for stormwater runoff control measures as well as construction site pollution and prevention BMP's. The materials shall be distributed to all developers and builders when a construction permit is issued.

Permit Requirement Citation: Part V, Section B.4.c.

Activity: Develop and adopt technical guidance materials for designing and maintaining stormwater runoff control plans in coordination with the adoption of the City construction site runoff ordinance.

Objectives: To provide guidance for developers and builders in reducing stormwater pollutant discharge from all construction sites despite the size of the project.

Interim Steps and Schedule: Develop and produce guidance materials specific to Lake Havasu City area. Adopt the guidance materials and distribute them to the developing community.

Develop Policies & Procedures	June 1, 2007 Completed
Implement Policies & Procedures	December 19, 2007

Measurable Goals: Develop, adopt and distribute technical guidance materials coinciding with the plan review process (3.4.2) and enforcement strategies (3.4.4).

STORMWATER MANAGEMENT PROGRAM



2.4.4: Develop a Construction Site Inspection & Enforcement Program

Lake Havasu City intends to develop written policies and procedures for inspecting construction sites and enforcing stormwater runoff controls. This will include developing inspection checklists or reports, and enforcement tools. The City will train inspectors and implement inspections.

Permit Requirement Citation: Part V, Section B.4.d.

Activity: Prepare standard procedures for inspecting sites and enforcing stormwater runoff controls, train inspectors for these procedures and conduct inspections.

Objectives: Effectively inspect construction sites for compliance with stormwater runoff controls.

Interim Steps and Schedule:

Develop Policies & Procedures	December 2007
Implement Policies & Procedures	December 19, 2007

Measurable Goals: Generate inspection and enforcement policies and procedures in place and implement the inspection and enforcement program in coordination with plan review policies and procedures. Evaluate as part of overall program review prior to permit review recommending appropriate changes as needed.

STORMWATER MANAGEMENT PROGRAM



2.5: Post-Construction Site Runoff Control

Lake Havasu City Code contains ordinances about retaining stormwater for new construction. These ordinances establish methods and standards for retention for new construction within the City. These would be modified to control post-construction flooding rather than stormwater runoff.

Responsible Department: Public Works Engineering/Admin. Division

Responsible Position: Jeff LeMire, Public Works Project Manager

STORMWATER MANAGEMENT PROGRAM



2.5.1: Develop & Adopt a Post-Construction Stormwater Runoff Ordinance

Lake Havasu City will develop a successful post-construction stormwater runoff program, including educational material as well as identification of design BMP criteria covered in an ordinance.

Permit Requirement Citation: Part V, Section B.5.c

Activity: Create and Adopt an ordinance that addresses post-construction runoff from new development and redevelopment projects, identifying approved BMP's for structural and nonstructural controls that impacts new and redevelopment projects as defined in the General Permit Part V, Section B.5.

Objectives: Minimize impacts of new or redevelopment projects on stormwater quality through effective controls for stormwater discharge management.

Interim Steps and Schedule:

Identify Program Goals	December 2007
Implementation	December 19, 2007

Measurable Goals: Adopt a post-construction stormwater runoff ordinance to address new and redevelopment projects as defined in the AZPDES Small MS4 General Permit Part V, Section B.5. by the renewal of this permit.

STORMWATER MANAGEMENT PROGRAM



2.5.2: Develop & Adopt Technical Guidance Materials

Lake Havasu City intends to develop and distribute technical guidance materials that define BMP design and maintenance requirements. Once the design goals are established for the ordinance, the technical guidance materials can be developed.

Permit Requirement Citation: Part V, Section B.5.e.iii.

Activity: Develop and adopt technical guidance materials for design, installation and maintenance of structural post-construction stormwater runoff BMP's.

Objectives: To reduce the pollutants in post-construction site runoff to the maximum extent practicable (MEP).

Interim Steps and Schedule:

Develop Materials	December 2007 In Progress
Distribution of Materials	December 19, 2007

Measurable Goals: Develop, adopt and distribute technical guidance materials and distribute to the developing community.

STORMWATER MANAGEMENT PROGRAM



2.5.3: Develop Policies & Procedures for Plan Review

Lake Havasu City intends to establish written policies and procedures for plan review of new development projects for post-construction BMP's. Once these policies and procedures have been developed, plan review staff will be trained.

Permit Requirement Citation: Part V, Section B.5.e.iii.

Activity: Develop policies and procedures for post-construction stormwater runoff plan review for all new development and redevelopment projects that affect one or more acres as defined in the General Permit Part V, Section B.5.

Objectives: Effectively implement a program to reduce pollutants in post-construction stormwater runoff to the MEP for new or redevelopment projects as defined in the General Permit Part V, Section B.5.

Interim Steps and Schedule:

Develop Policies & Procedure	December 2007 In Progress
Implementation	December 2007

Measurable Goals: Develop policies and procedures for plan review for post-construction stormwater runoff controls and implement by renewal of this permit.

STORMWATER MANAGEMENT PROGRAM



2.6: Pollution Prevention/Good Housekeeping

Lake Havasu City recognizes that a successful (SWMP) stormwater management plan requires diligent pollution prevention and good housekeeping. Lake Havasu City Code already contains many pollution prevention components, and the City is committed through policy and procedure to good housekeeping for stormwater management. Lake Havasu City also realizes that evaluating and refining good housekeeping and pollution prevention is beneficial, and the City is committed to the BMP's and schedules described below:

1. Maintenance of City Streets
2. Equipment Maintenance Shops
3. Stormwater Collection System Annual Cleanup
4. Parks Department Maintenance Operations
5. Solid Waste Collection and Disposal
6. Fire department Routine and Emergency Operations
7. Storage and Maintenance Facilities

All facilities mentioned will collect and dispose properly of all materials appropriately as per Federal, State, and local environmental regulations.

Responsible Department: Public Works Department
Parks & Rec. Department

Responsible Position: Jeff LeMire, Public Works Project Manager

STORMWATER MANAGEMENT PROGRAM



2.6.1: Evaluate Street Sweeping Policies & Procedures

Lake Havasu City intends to have written policies and procedures for Street Sweeping to help prevent floatables and sediment from reaching the stormwater system. The City will evaluate its street sweeping practices from a standpoint of stormwater runoff and will make changes if necessary.

Permit Requirement Citation: Part V, Section B.6.a.ii.

Activity: Evaluate street sweeping practices and schedule to determine effectiveness in addressing public street runoff impacts on stormwater quality.

Objectives: Evaluate the City's street sweeping program to determine if operations should be revised in order to minimize pollutant discharges to the MS4. To develop written policies and procedures for street sweeping and any revisions to it to achieve performance goals established in the evaluation.

Interim Steps and Schedule:

Review Policies	May 14, 2007 Completed
Develop Policies & Procedure	December 2007
Implementation	December 19, 2007

Measurable Goals: Review City street sweeping program, recommend changes or modifications to street sweeping procedures, equipment, schedules and priorities. Implement changes to the street sweeping program by December 2007.

STORMWATER MANAGEMENT PROGRAM



2.6.2: Train City Employees about Pollution Prevention

Lake Havasu City will incorporate into existing training programs staff training on pollution prevention and the SWMP.

Permit Requirement Citation: Part V, Section B.6.b.ii.

Activity: Train Lake Havasu City Employees regarding general water quality issues as well as the City's Pollution prevention program and SWMP.

Objectives: Inform City employees of water quality issues related to City operations to reduce pollution from municipal operations and empower employees to carry out their responsibilities day to day with the goal of minimizing impacts on water quality.

Interim Steps and Schedule:

Develop Training Tools	June 25, 2007 Completed
Conduct Training Sessions	December 2007

Measurable Goals: Develop and implement employee training program by December 2007, then have annual refresher courses. Tracking of employees trained, material covered, and evaluation of program for updates for following year.

STORMWATER MANAGEMENT PROGRAM



2.6.3: Develop & Implement a Municipal Pollution Prevention Program

Lake Havasu City will evaluate municipal facilities for potential to contribute to pollutant loading and determine pollution prevention measures to be installed through a pollution prevention plan for the facility. The goal is to reduce the potential pollutant loading from municipal facilities.

Permit Requirement Citation: Part V, Section B.6.a.

Activity: Evaluate City operation and maintenance activities as well as City owned facilities to determine if stormwater pollutants are being reduced to MEP at City Facilities.

Objectives: Reduce the potential for pollutant discharge from municipal operations and facilities owned by Lake Havasu City.

Interim Steps and Schedule: Identify City operations and facilities to prioritize evaluations. Evaluate and identify operations and facilities then develop pollution prevention plans or activities if needed. Evaluate as many activities/facilities as possible by December 2007. After the renewal process reevaluate four activities/facilities annually.

Measurable Goals: Evaluate as many possible operations and facilities as possible by December 2007 and then continue four inspections annually. Modify and implement pollution prevention plans as needed per evaluation findings. Provide employee training on pollution prevention plan if evaluation determined necessary.

STORMWATER MANAGEMENT PROGRAM



3.0: Definitions:

AZPDES – Arizona Pollutant Discharge Elimination System: Arizona Department of Environmental Quality’s (ADEQ) version of NPDES program.

BMPs – Best Management Practices: Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of “waters of the United States.” BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Control Measure: refers to any Best Management Practice or other method used to prevent or reduce the discharge of pollutants to the waters of the United States.

CWA – Clean Water Act: is the Federal Water Pollution Control Act, 33 U.S.C.1251 et sq.

Illicit Connection – Any manmade conveyance connecting a discharge directly to a municipal separate storm sewer (MS4) which was not authorized by Lake Havasu City.

Illicit Discharge – Any discharge to a municipal separate storm sewer system (MS4) that is not composed entirely of storm water except a discharge pursuant to a NPDES permit (other than the municipal separate storm sewer) and discharges resulting from fire fighting activities.

MCM – Minimum Control Measures: the minimum required by law.

MEP – Maximum Extent Practicable: the removal of pollutants to the best of the MS4’s ability.

MS4 – Municipal Separate Storm Sewer System: A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curb, gutters, ditches, washes, man-made channels, or storm drains).

NOI – Notice of Intent: Form submitted to permitting authority (ADEQ) to be covered under general permit for discharge activities.

NPDES – National Pollutant Discharge Elimination System: National program for issuing, modifying, revoking and reissuing, terminating, imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of Clean Water Act (CWA).

Outfall – the point where a municipal separate storm sewer discharges to waters of the United States.

Phase II – In 1990, Phase I of the Storm Water program regulated industry, construction projects greater than 5 acres, and large municipalities (Scottsdale, Glendale, Mesa and Tucson). The second phase of the storm water regulation expanded the regulating community to include MS4’s and small construction sites 1-5 acres in size.

Point Source: the source of a pollutant is traced back to.

Redevelopment – Alterations of a property that change the footprint of a site or building in such a way that results in the disturbance of equal to or greater than 1 acre of land.

SWPPP – Storm Water Pollution Prevention Plan: A plan prepared in accordance with the Arizona Discharge Elimination System and the National Pollution Discharge Elimination System regulations as established by the Clean Water Act to eliminate the contribution of pollutants.

TMDL – Total Maximum Daily Loads: the maximum allowed daily amount of a specified pollutants or parameters of concern.

STORMWATER MANAGEMENT PROGRAM



4.0: Acronyms & Abbreviations

ADEQ	ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
ADOT	ARIZONA DEPARTMENT OF TRANSPORTATION
AZPDES	ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM
BMP	BEST MANAGEMENT PRACTICE
BOD	BIOCHEMICAL OXYGEN DEMAND
CIP	CAPITAL IMPROVEMENT PROJECT
CWA	CLEAN WATER ACT
EPA	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER
GIS	GEOGRAPHIC INFORMATION SYSTEM
HMC	HAVASU MUNICIPAL CODE
HHW	HOUSEHOLD HAZARDOUS WASTE
HOA	HOMEOWNERS ASSOCIATION
IC	ILLICIT CONNECTION
ID	ILLICIT DISCHARGE
IPP	INDUSTRIAL PRETREATMENT PROGRAM
LHCPD	LAKE HAVASU CITY POLICE DEPARTMENT
LHCPW	LAKE HAVASU CITY PUBLIC WORKS
LHCFD	LAKE HAVASU CITY FIRE DEPARTMENT
MEP	MAXIMUM EXTENT PRACTICABLE
MS4	MUNICIPAL SEPARATE STORM SEWER SYSTEM
NOI	NOTICE OF INTENT
NOT	NOTICE OF TERMINATION
NPDES	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
P2	POLLUTION PREVENTION
PSA	PUBLIC SERVICE ANNOUNCEMENT
SIU	SIGNIFICANT INDUSTRIAL USER
SOP	STANDARD OPERATING PROCEDURE
SWMP	STORM WATER MANAGEMENT PROGRAM
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
TMDL	TOTAL MAXIMUM DAILY LOADS

Small MS4 Annual Report Form

Please refer to the attached instructions as you prepare your annual report.

A. General Information

Name of MS4: Lake Havasu City, Az

Contact Name: Jeff LeMire, Public Works Project Manager

Telephone Number: (928)453-6660 Email Address: lemirej@lhcaz.gov

Annual Report Period: July 1, 2010 through June 30, 2011

B. SWMP Modifications and Additional Information. Attach a brief explanation if you check "yes" to any of the following statements.

- | | | |
|---|---|--|
| 1. Changes have been made or are proposed to the SWMP since the last annual report, including changes in response to ADEQ's review. | YES <input checked="" type="checkbox"/> | NO <input type="checkbox"/> |
| 2. The MS4 has annexed lands. | YES <input type="checkbox"/> | NO <input checked="" type="checkbox"/> |
| 3a. The MS4 discharges directly to an impaired water. | YES <input type="checkbox"/> | NO <input checked="" type="checkbox"/> |
| 3b. A water within 10 miles of the MS4's jurisdiction has been identified as impaired. | YES <input type="checkbox"/> | NO <input checked="" type="checkbox"/> |
| 4a. The MS4 discharges directly to water for which a TMDL has been established. | YES <input type="checkbox"/> | NO <input checked="" type="checkbox"/> |
| 4b. A TMDL has been established for a water within 10 miles of the MS4's jurisdiction. | YES <input type="checkbox"/> | NO <input checked="" type="checkbox"/> |
| 5. The MS4 has conducted analytical monitoring of stormwater quality. | YES <input type="checkbox"/> | NO <input checked="" type="checkbox"/> |
| 6. The MS4 is relying on another government entity to satisfy some permit obligations. | YES <input checked="" type="checkbox"/> | NO <input type="checkbox"/> |

C. Stormwater Management Program Status. Provide the status of every BMP and measurable goal in your SWMP as described in the instructions.

TABLE 1

Minimum Control Measure(s)	BMP	Measurable Goal (steps to measure progress)	New or Revised	Start Date	Implementation Status/ Frequency/ Achievement Date (completed, in progress, not started)
Public Education & Outreach	2.1.1: Distribute Educational Materials about Stormwater	January 2008 water billings had a SWMP brochure included in the water bills.	Ongoing	January 2008	In progress, annual water bill mailing, will be looking for other opportunities for this type of mailing also. Working with local BLM office to possibly have them help on this topic.
	2.1.2: Publish Stormwater Materials on City's website	City IT/IS division is starting up a tracking system and report for this.	Ongoing	November 29, 2007	In progress, information is on www.lhcaz.gov , information will be updated to cover current local/state issues.
Public Involvement & Participation	2.2.1: Continue Compliance with State & Local Public Notice Requirements	Updated new Floodplain Ordinance to City Council June 2008.	Ongoing	June 25, 2007	In progress, worked with FEMA representatives on the ordinance adopted August 22, 2008. Working on Floodplain permitting process for within City limits.
	2.2.2: Continue the Household Hazardous Waste Dump Day	To help prevent illegal dumping of hazardous materials within Lake Havasu City. LHCFD will provide detailed information on the quantity of materials collected. If there are any questions regarding hazardous materials, please contact the LHCFD at (928) 855-1141.	Canceled	Canceled	In progress, the annual event the LHC Fire Department put on was canceled in March due to budget cuts.
	2.2.3: Continue Keep Havasu Beautiful Clean Up Projects	To help prevent illegal dumping of materials into Lake Havasu City's washes and other undeveloped areas with an emphasis on public involvement and attendance with the goal of increasing the previous year's volunteers and public participation.	Ongoing	December 19, 2007	In progress, is an annual event put on by City Code Enforcement and City has started an Adopt A Wash Program and can be found on the City website.
	2.2.4: Update the City Council on the City's SWMP Annually	Update the Lake Havasu City Council annually to provide input into the annual report and for any amendments to the SWMP. Comments from Council and the general public will be reported in the annual report.	Ongoing	Annual	In progress, is an annual event, this year we reviewed the SWMP with Council and updated them on progress.
	2.2.5: Coordinate a River/Wash Volunteer Clean Up Day	To clean up outfall areas and washes within Lake Havasu City. Use this to monitor location and concentration on an annual basis.	Ongoing	Annual	In progress, Keep Havasu Beautiful Organization has cleanups the Monday after major holidays & events on the Lake. Other clean ups. Working with BLM on possible program between both agencies.
Illicit Discharge Detection and Elimination	2.3.1: Review and/or Develop City Ordinances	Adopt a code or ordinance with enforcement strategies, such as fines or imprisonment that prohibits	Ongoing	December 19, 2007	In progress, new floodplain ordinance was adopted in August which will help in implementing new ordinances/regulations.

		illicit discharges to the City's MS4.			
	2.3.2: Create an Outfall Inspection Program	Perform dry weather outfall inspections of 25% of the City's stormwater outfalls annually.	Ongoing	November 30, 2007	In progress, is an annual event, (modifications: LHC is teaming up with BLM to create this starting in 11/12. BLM will be fund testing & inspection/sample collection will be performed by LHC staff. Working on measureable goals and documentation methods)
	2.3.3: Develop & Distribute Educational Materials on Illicit Discharges	Educational materials regarding illegal discharges are available at City Hall, these materials utilize the methods identified under Public Outreach and Education within this SWMP.	Ongoing	June 1, 2007	In progress, is a continual practice
Construction Site Runoff Controls	2.4.1: Adopt an Erosion & Sediment Control Ordinance	Adoption of a construction site management control program including necessary ordinances. Site inspection and evaluation of recurring problems and issues, recommended changes for the regulatory process shall be considered prior to renewal of permit.	Ongoing	December 19, 2007	In progress, new floodplain ordinance will help this and we will be continuing to look at implementing new ordinances. We are also working on a Drainage Master Plan that will outline ephemeral wash maintenance and facilities inventory drafts January 2008. Enforcement of ordinance and drainage standards ongoing.
	2.4.2: Develop Policies & Procedures for Plan Review	Develop plan policies and procedures for review of stormwater runoff control policies and procedures. Include permit evaluation of plan review process in overall program.	Ongoing	December 19, 2007	In progress, is a continuing effort, have implemented Pre-Application process pertaining to drainage and runoff.
	2.4.3: Develop & Adopt Technical Guidance Materials	Develop, adopt and distribute technical guidance materials coinciding with the plan review process. The City will also track the number of SWPPP's and NOI's submitted annually and include those numbers in the annual report.	Ongoing	December 19, 2007	In progress, have implemented Pre-Application process that provides developers/builders materials on SWPPP and other drainage issues. Lack of development leads to only 3 of these packets passed out.
	2.4.4: Develop a Construction Site Inspection & Enforcement Program	Generate inspection and enforcement policies and procedures, and implement the inspection and enforcement program. Evaluate the overall program review, prior to permit review, and then recommending appropriate changes as needed.	Ongoing	December 19, 2007	In progress, have implemented Pre-Application process that provides developers/builders materials on drainage issues. PW Dept. Staff is now inspecting/commenting on commercial developments.
2.5: Post-Construction Site Runoff Control	2.5.1: Develop & Adopt a Post-Construction Stormwater Runoff Ordinance	Adopt a post-construction stormwater runoff ordinance to address new development and redevelopment projects.	Ongoing	December 2007	In progress, currently working on ordinances and reviewing Mohave County Drainage Design Manual Regulations and staff being trained on.

	2.5.2: Develop & Adopt Technical Guidance Materials	Develop, adopt and distribute technical guidance materials and distribute to the developing community.	Ongoing	June 2007	In progress, is available through the Pre-Application Process. Slowed development occurring in our region.
	2.5.3: Develop Policies & Procedures for Plan Review	Develop policies and procedures for plan review for post-construction stormwater runoff controls and implement.	Ongoing	June 2007	In progress, is available through the Pre-Application Process.
2.6: Pollution Prevention/Good Housekeeping	2.6.1: Evaluate Street Sweeping Policies & Procedures	Recommend changes or modifications to street sweeping procedures, equipment, schedules and priorities. Implement changes to the street sweeping program by December 2007 and continue to review annually.	Ongoing	December 2007	In progress, new street division manager is implemented new policies and procedures for the department.
	2.6.2: Train City Employees about Pollution Prevention	Implement employee training program by December 2007, then have annual refresher courses. Tracking of employees trained, materials covered, and evaluation of program for updates for following year.	Ongoing	June 2007	In progress, training of the PW Engineering Division staff occurs annually and other training is being investigated.
	2.6.3: Develop & Implement a Municipal Pollution Prevention Program	Evaluate five operations and facilities by December 2007 and then continue inspections annually. Modify and implement pollution prevention plans, as needed, per evaluation findings in a timely manner. Provide employee training on stormwater management plan and pollution prevention to each site after inspection.	Ongoing	December 2007	In progress, have investigated the PW Maintenance Facility, City Hall Parking Lot and Rotary Park made some changes/suggestions to parking lot modifications to help drainage and removed obstructions.

Note: If you have developed a stormwater ordinance during the last reporting period, include a description or citation of the ordinance, or simply attach a copy of the ordinance.

D. Certification

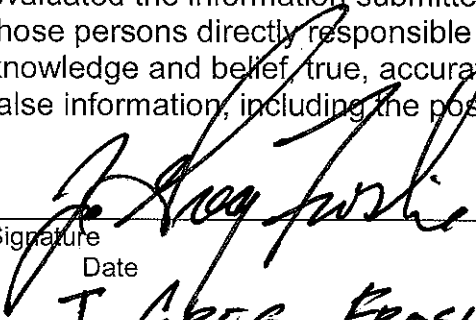
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature

Date

Name (printed)

Title



J. GREG FROSLIE

CITY ENGINEER

10.11.11

INSTRUCTIONS

Regulated Municipal Separate Storm Sewer Systems (MS4s) must submit annual reports to Arizona Department of Environmental Quality (ADEQ) for each year of the permit term. In compliance with the MS4 General Permit, an MS4 must annually review its Stormwater Management Program (SWMP) in conjunction with the preparation of the annual report. This document is a suggested format for annual reporting.

Submit a signed copy of your annual report no later than September 30 of each year to:

Arizona Department of Environmental Quality
Surface Water Section/ Stormwater & General Permits Unit (5415A-1)
1110 West Washington Street
Phoenix, AZ 85007

A. General Information

Provide the name of the municipality or owner/operator of the storm sewer system.

Provide the name, telephone number, and email address for the stormwater program contact person.

Place a check mark in the box corresponding to the current annual report year.

B. SWMP Modifications and Additional Information

1. **Changes have been made or are proposed to the SWMP.** Modifications to the SWMP must be addressed in the annual report in accordance with Part V.E. and Part V.G. of the Permit. If ADEQ notified you during this reporting period that changes to your SWMP were necessary, you must check "yes" to this question.

Be sure to provide the following information in the attached explanation:

- a. Describe changes made to best management practices (BMPs), measurable goals, dates, contacts, procedures or details during the last reporting period.
 - b. If changes include additions or substitutions of BMPs, please indicate this. Include a written analysis explaining why the original BMP is ineffective or infeasible and why the replacement BMP is expected to achieve the goals of the original BMP.
2. **The MS4 has annexed lands.** Attach a description (or map) indicating the annexed area, the BMPs to be implemented, and any resulting updates to the SWMP.
 3. **A water is listed as impaired.** ADEQ has completed Arizona's 2006/2008 List of Impaired Waters. Since the list has been updated, you may discover that your MS4's receiving water(s) is now listed as impaired. Please determine if your

receiving water(s) has been assessed as impaired. The 2006/2008 List of Impaired Waters has been posted on ADEQ's web site at <http://www.azdeq.gov/environ/water/assessment/assess.html>

- a. If your MS4 discharges directly to an impaired water, you must amend your SWMP to control the discharge of listed pollutants and ensure to the maximum extent practicable that discharges from the MS4 will not cause or contribute to exceedances of surface water quality standards. The SWMP must also identify BMPs to control discharges and include monitoring of their effectiveness (Permit Part I.D.5.b and Permit Part V.F.1). Attach a copy of this section of the SWMP to the annual report.
 - b. If you locate an impaired water within 10 miles of your jurisdiction, you must identify the sources of pollutants of concern to that water and evaluate the likelihood of your MS4's discharge contributing to the water's impairment. Attach a brief explanation to the annual report.
4. **A TMDL has been established.** A Total Maximum Daily Load (TMDL) is the maximum amount (load) of a water quality parameter which can be carried by a surface water, on a daily basis, without causing an exceedance of surface water quality standards. A list of the established TMDLs for impaired waters is located on ADEQ's web site at: <http://www.azdeq.gov/environ/water/assessment/status.html>.
 - a. If your MS4 discharges directly to water for which a TMDL has been established:
 - i. and the TMDL includes a wasteload allocation or load allocation for your MS4, you must amend your SWMP to describe what BMPs you will use to meet the allocation(s) and to describe the monitoring program associated with the pollutant of concern. Include a description and schedule for implementation of additional BMPs to ensure compliance with the TMDL. You must also attach to a description of the SWMP amendment to the annual report.
 - ii. but the TMDL did not allocate a load or wasteload to the MS4, attach a statement stating so to your annual report.
 - b. If a TMDL has been established within 10 miles of your jurisdiction and does not include an allocation for your MS4, you must evaluate the likelihood of your discharge contributing to that water's impairment. Attach a brief explanation to your annual report.
5. **The MS4 conducted analytical monitoring of stormwater quality.** Attach to the annual report any monitoring data used to evaluate the success of the SWMP to reducing pollutants to the maximum extent practicable. The summary should include a discussion of results. Data collection must follow the requirements of Permit Part V.F and Part VI.K.
6. **The MS4 is relying on another government entity to satisfy some of the permit obligations.** If you are relying on another entity to satisfy permit obligations, attach a statement to the annual report identifying the entity and the elements the entity will be implementing. A description of the agreement or written documentation of the agreement must be included in the SWMP.

C. Stormwater Management Program Status

Each MS4 is required to evaluate compliance with permit requirements and assess the appropriateness of the BMPs in reducing the discharge of pollutants to the maximum extent practicable. The purpose of the annual report is to report the status of compliance with permit conditions, specifically the implementation of selected BMPs and the progress towards achieving the measurable goals for each BMP.

Using the table format provided on page 2 and following the example on page 6 of this document, summarize the status of all BMPs specified in your SWMP, as follows:

Minimum Control Measure(s): Specify the minimum control measure (MCM) addressed by each BMP. The six MCMs are listed in Part V.B. of the permit. Some BMPs may address more than one MCM.

BMP: List ALL of the BMPs specified in your SWMP, including any new BMPs. BMPs are the specific, long-term activities and practices that will be implemented to prevent or reduce stormwater pollution from the MS4. Examples include stormwater public service announcements, MS4 outfall inspections, and construction site plan review.

Note: If you have developed a stormwater ordinance during the last reporting period, include a description or citation of the ordinance, or simply attach a copy of the ordinance.

Measurable Goals: List ALL measurable goals in your SWMP, including any new measurable goals. Measurable goals are the ongoing tasks and interim steps that demonstrate progress toward implementing a specific BMP. They are used to measure the effectiveness of your SWMP and compliance with the permit. Each BMP must include specific measurable goals. For instance, the measurable goals for the BMP “establishing a stormwater web page” might include “researching stormwater pollution prevention materials”, “drafting web page text”, “designing web page layout”, and “distributing final draft for approval”. Upon implementation, additional measurable goals that track progress of the BMP may include “annual review and update of the web page” and “tracking the number of “hits” to the web site”.

New or Revised: Place an X in this column if the BMP or measurable goal is new or revised, such as replacement with another BMP, addition of a new measurable goal, or revision of a start date, etc. Briefly explain the change to the SWMP in the “Implementation Status” column.

Start Date: Specify the scheduled start date (month and year) for each measurable goal.

Implementation Status: Indicate the implementation status (such as completed, in progress, or not started) of each measurable goal as of June 30 of this reporting cycle. If an activity is completed, indicate the achievement date. If an activity is in progress, provide the expected achievement date. If an activity has not yet been started, indicate the expected achievement dates. In addition, use this column to briefly explain the frequency of on-going BMPs.

The following table is an example of the type of information to be provided in the annual report:

EXAMPLE

Minimum Control Measure(s)	BMP	Measurable Goal (steps to measure progress)	New or Revised	Start Date	Implementation Status/ Frequency/ Achievement Date (completed, in progress, not started)
Pollution Prevention/Good Housekeeping for Municipal Oper.	Train all public works and streets staff	Approx. 20 staff trained annually. Staff educated on good housekeeping/ pollution prevention and upcoming stormwater ordinance		April 2004	In progress, annual training every April.
Illicit Discharge Detection and Elimination	Perform field screening of outfalls	Completed storm sewer system map includes all outfalls and names and locations of all waters of the U.S.		January 2005	Completed June 2005.
Construction Site Control and Post-Construction Site Control	Implement stormwater ordinance for construction and post-construction runoff control	Researched other municipalities' ordinances	X	July 2004	Completed. Revised start date from March 2004 to July 2004.
Construction Site Control and Post-Construction Site Control	Implement stormwater ordinance for construction and post-construction runoff control	Integrated language from model ordinance		September 2004	Completed December 2004.
Construction Site Control and Post-Construction Site Control	Implement stormwater ordinance for construction and post-construction runoff control	Stormwater ordinance has been drafted		March 2005	In progress. Draft ordinance presented to City Council June 2005. Approval pending, expected completion date July 2005.

D. Certification

The annual report must be signed by either a principal executive officer or ranking elected official, or by a duly authorized representative (refer to Permit Part VI.L).

A. SWMP Modifications and Additional Information. Attach a brief explanation if you check "yes" to any of the following statements.

Lake Havasu City and the local BLM office have been working together throughout the past year in putting together a testing and sampling program for many of the City's washes that discharge to BLM jurisdiction (Lake Havasu). The agreement was finalized and will be put into place in the City's 2011-2012 fiscal year. Doyle Wilson Lake Havasu City's Water Resources Coordinator will be overseeing this program and creation of inspection reports and analytical data. BLM will be funding the testing costs associated with this and City staff will be performing inspections and sample collection. Currently, sampling is outlined to occur in dry weather as well as during a storm event to determine a baseline and actual event data to be used by both jurisdictions.



U.S. Environmental Protection Agency

Region 9

Water Division

75 Hawthorne Street

San Francisco, CA 94105-3901

**MUNICIPAL SEPARATE STORM
SEWER SYSTEM (MS4)
COMPLIANCE AUDIT**

LAKE HAVASU CITY

AUDIT REPORT

Audit Date:

October 25–26, 2011

Report Date:

November 30, 2011

EXECUTIVE SUMMARY

On October 25-26, 2011, the U.S. Environmental Protection Agency's (EPA) contractor, PG Environmental, LLC (hereinafter, PG), conducted an audit of the Lake Havasu City Municipal Separate Storm Sewer System (MS4) Program with assistance from Arizona Department of Environmental Quality (ADEQ) staff (hereinafter, collectively, the Audit Team).

This audit report identifies potential permit violations, program deficiencies, and positive attributes and is not a formal finding of violation. Program deficiencies are areas of concern for successful program implementation. Positive attributes indicate overall progress in implementing the Program.

Several elements of the City's program were particularly notable:

1. The Bureau of Land Management (BLM) recently awarded a contract to the City to develop a study/sampling protocol to document existing environmental conditions of seven Lake Havasu tributary floodways affected by City management. Activities had yet to commence at the time of the audit, but per the City, a draft work plan had been developed.
2. The City had recently received a grant from the Watershed Management Group (WMG), based in Tucson, AZ, to conduct a demonstration project at the city-owned Aquatic Center. According to the City, the project will focus on pre-treatment of storm water and the capture and storage of storm water runoff to use for irrigation. Once complete, this will be the first post-construction storm water project implemented by the City. As such, the City plans to use this as a demonstration project for local and regional developers.
3. Several of the City's Public Works Department staff interviewed during the inspection were recognized by the Audit Team for their individual efforts to encourage the use of best management practices (BMPs) on both public and private construction projects to the extent possible without regulations or ordinances.
4. The Audit Team briefly met with the Airport Manager at the Lake Havasu City Municipal Airport. The airport obtained coverage under a Multi-Sector General Permit (MSGP) for discharging industrial storm water. The Airport Manager was knowledgeable regarding the requirements of the MSGP and discussed implementation of the Stormwater Pollution Prevention Plan (SWPPP) with the Audit Team, including outfall inspection and runoff sampling procedures for compliance with the requirements of the permit.

The following potential permit violations and program deficiencies are considered the most significant and are further discussed within the report:

1. Three active illicit discharges were observed during the audit.
2. The City had not developed policies or procedures for identifying and eliminating illicit discharges.
3. The City had not conducted training programs for municipal employees to identify and eliminate illicit discharges.
4. The City had not implemented an outfall inspection program.
5. The City had not fully developed and implemented a procedure for reviewing construction plans or inspecting construction site storm water BMPs.
6. The City had not developed a program to ensure the use of post-construction BMPs and their long-term maintenance and operation.
7. The City had not deployed adequate BMPs at the Public Works Maintenance Facility or other municipal yard.
8. The City had not developed an operation and maintenance program to prevent or reduce pollutant runoff from municipal operations.

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1.0 INTRODUCTION

On October 25–26, 2011, the U.S. Environmental Protection Agency’s (EPA) contractor, PG Environmental, LLC, (hereinafter, PG) conducted an audit of the Lake Havasu City Municipal Separate Storm Sewer System (MS4) Program with assistance from Arizona Department of Environmental Quality (ADEQ) staff (hereinafter, collectively, the Audit Team).

1.1 Permit and Storm Water Management Plan

Discharges from the Lake Havasu City (hereafter, the City or Permittee) MS4 are regulated under the provisions of the Arizona Pollutant Discharge Elimination System program (Arizona Revised Statutes, Title 49, Chapter 2, Article 3.1 and Arizona Administrative Code, Title 18, Chapter 9, Articles 9 and 10), Permit No. AZG2002-002, *State of Arizona Pollutant Discharge Elimination System General Permit for Discharge from Small Municipal Separate Storm Sewer Systems (MS4s) to Waters of the United States*, (hereinafter, the Permit), issued December 19, 2002. The Permit was set to expire on December 19, 2007; however, the permit has been administratively extended.

The Permit authorizes the City to discharge storm water runoff and certain non-storm water discharges from its Small MS4 to waters of the United States, under the Permit terms and conditions. Part V., Section A of the Permit requires the City to develop, implement, and enforce a storm water management Program (SWMP) designed to reduce the discharge of pollutants from the regulated Small MS4 to the maximum extent practicable (MEP) to protect water quality.

Pursuant to this requirement, the City completed a Stormwater Management Program (undated) and as indicated in the Introduction (Section 1.0) of the City’s SWMP, the current SWMP builds on the City’s 2003 SWMP. The City was in Permit Year nine at the time of the audit. City representatives stated that there were approximately 71 miles of washes within their jurisdictional boundary and 13 distinct locations where the washes discharge directly into Lake Havasu.

1.2 Purpose of Audit

The purpose of the audit was to obtain information that will assist EPA and ADEQ in assessing the City’s compliance with the requirements of the Permit and associated SWMP, as well as the implementation status of the City’s SWMP. The audit schedule is presented as Appendix A. The Exhibit Log and Photograph Log are provided as Appendices B and C, respectively. Copies of the Permit, SWMP, and 2010–2011 Annual Report (Permit Year 8) are included as Appendices D, E, and F, respectively.

1.3 Program Areas Evaluated

The audit included an evaluation of the Permittee’s compliance with the following Minimum Control Measures (MCMs) included in the Permit:

MCM 1	Public Education and Outreach
MCM 2	Public Involvement/Participation
MCM 3	Illicit Discharge Detection and Elimination
MCM 4	Construction Site Storm Water Runoff Control
MCM 5	Post-Construction Storm Water Management in New Development and Redevelopment
MCM 6	Pollution Prevention/Good Housekeeping for Municipal Operations

No potential permit violations or deficiencies were noted for MCM’s 1 and 2 during the audit, therefore, no further discussion of these MCMs are included in this report. Observations regarding the City’s implementation of MCM’s 3-6 have been included in this report.

1.4 Audit Process

The Audit Team obtained its information through a series of interviews with representatives from the City's Development Services Department and Public Works Department, along with a series of site visits, record reviews, and field verification activities. It should be noted that this audit report does not attempt to comprehensively describe all aspects of the City's SWMP, fully document all lines of questioning conducted during personnel interviews, or document all in-field verification activities conducted during site visits.

EPA contractor representatives presented their credentials at the opening meeting. The primary representatives involved in the audit were the following:

Lake Havasu City MS4 Audit: October 25–26, 2011	
Public Works	W. Mark Clark, P.E., Public Works Director J. Gregory Froslic, P.E., Assistant Public Works Director and City Engineer Jeff LeMire, Project Manager Rich Wells, P.E., Construction Project Manager Wastewater System Expansion Doyle Wilson, Ph.D., P.G., Water Resources Coordinator
Development Services	Stuart Schmeling, AICP, Planning Division Manager John Gervasoni, Senior Plans Examiner Brian Bertucci, Building Inspector
Arizona Department of Environmental Quality	J. Craig Beeson, PE, Water Quality Field Services Unit Greg Wise, Inspector Stormwater Compliance Jeff Lemley, Inspector Water and Wastewater Systems
EPA Contractors	Wes Ganter, PG Environmental, LLC Marleina Overton, PG Environmental, LLC

2.0 PROGRAM EVALUATION RESULTS

This audit report identifies potential permit violations, program deficiencies, and positive attributes and is not a formal finding of violation. Program deficiencies are areas of concern for successful program implementation. Positive attributes indicate a permittee's overall progress in implementing the SWMP. The Audit Team documented only positive attributes that were innovative (beyond minimum requirements). Some areas were found to be simply adequate; that is, neither particularly deficient nor innovative.

During the audit, the Audit Team obtained documentation and other supporting evidence regarding compliance with the Permit and associated SWMP. The SWMP contains citations to the Permit, BMP requirements, objectives, implementation timetable, and measurable goals. Referenced documentation used as supporting evidence is provided in Appendix B, and photo documentation is provided in Appendix C.

Section 2.1 Illicit Discharge Detection and Elimination

Part V, Section B.3.a of the Permit requires the City to develop, implement, and enforce an illicit discharge detection and elimination (IDDE) program and includes specific requirements related to the

City's IDDE program in Part V, Section B.3 (b) - (g) of the Permit. Several observations regarding this MCM were made during the audit and are included in this section.

During the audit, the Audit Team observed two active instances of illicit discharges from commercial properties, one instance where an illicit discharge had previously occurred at a residential home and, two other instances of illicit discharges near or within washes. All five illicit discharges entered the City MS4.

The Audit Team submitted a Records Request (see Appendix B, Exhibit 1) via email to Lake Havasu City on October 19, 2011, which formally outlined items related to the City's IDDE program that should be made available at the audit. These requests include items such as (1) a map of the MS4 denoting outfalls, (2) a schedule, map, or description of the outfall inspection program, (3) an inventory of businesses, entities, or areas inspected, visited, or observed as part of the illicit discharge program, (4) a system used to record illicit discharge incident information, and (5) any high priority areas. The City was unable to provide the requested documentation and fully demonstrate implementation of items 7 through 11 of the Records Request.

Additionally, while City representatives could remember some select instances of reported illicit discharges, such as past spills at Mission Linen and the city-owned Mulberry POTW, they did not possess an inventory or records of past illicit discharge events or actions taken, nor had the City reported the occurrence of an illicit discharge in their previous past annual reports. City staff indicated that they planned to report the occurrence of illicit discharges in future annual reports.

Potential Permit Violations:

2.1.1 The City had not developed and finalized City codes and ordinances to prohibit illicit discharges to the MS4. As stated in Part V, Section B.3.c of the Permit, "to the extent allowable under state or local law, effectively prohibit through ordinance or other regulatory mechanism, non-storm water discharges into the storm sewer system and implement appropriate enforcement procedures and actions." Section 2.3.1 of the City's SWMP specifies a measurable goal to "Adopt a Code or Ordinance with enforcement strategies, such as fines or imprisonment that prohibits illicit discharges to the City's MS4."

City representatives were unable to provide an ordinance, code or other regulatory mechanism specifically related to storm water, prohibitions against illicit discharges, or enforcement procedures and options. However, City representatives did reference a "Nuisance" code/ordinance that addresses issues related to rocks coming offsite, erosion, and other nuisance concerns. City staff also stated that they have attempted to adopt the Mohave County Drainage Design Manual and incorporate elements of the manual into ordinance.

Email correspondence from April 2007 between City staff and Mojave County staff appears to indicate an inability to effectively prohibit ongoing discharges from a food establishment and therefore demonstrates the impact of not having adequate codes or ordinances to prohibit illicit discharges (see Appendix B, Exhibit 2). Finding 2.1.2 below further demonstrates the impact of not having adequate codes or ordinances to prohibit illicit discharges.

2.1.2 The City had not developed procedures for identifying, locating, or eliminating illicit discharges. As stated in Part V, Section B.3.d of the Permit the City is required to "develop and implement a plan to detect, identify the source of, and address non-storm water discharges, including illegal dumping, to the system."

During the audit, the Audit Team identified two active instances of illicit discharges to the MS4 and several instances where it was evident an illicit discharge had occurred. In all instances, the City did not have procedures in place to identify, locate or eliminate the discharges. Additionally, the Audit Team asked City staff to provide a definition of illicit discharges, standard operating procedures for detection

and elimination of illicit discharges, City staff roles for implementing an IDDE program, recordkeeping and recording program for illicit discharges, and methods of training City staff on the IDDE program. The City was unable to provide the requested information.

Two active instances of illicit discharges were observed at commercial sites during the audit. In both instances the Audit Team along with a member of City staff were driving on London Bridge Road when the illicit discharges were observed. In the first instance, the Audit Team observed a discharge coming from an impervious area where a boat was parked next to a building at a boat rental, repair and retail store and draining to the City MS4 (see Appendix C, Photographs 1-3). In the second instance, the Audit Team observed an illicit discharge at a boat storage facility coming from inside a covered building, exiting the storage facility, and draining to the City MS4 (see Appendix C, Photographs 4 and 5). In both instances, the City representative appeared hesitant to immediately confront the situation and terminate the discharge. When asked by the Audit Team the procedures for identifying and eliminating these illicit discharges, City representatives were not able to provide formal or informal procedures.

The Audit Team observed evidence of an illicit discharge from a residential property at the intersection of Bermuda Avenue and Kiowa Boulevard. A concrete mixer was on the property and washout staining from the mixer was observed leaving the property, on the public road, and ultimately in the MS4 (see Appendix C, Photograph 6 and 7).

In addition to the three instances of illicit discharges described above, the Audit Team identified widespread concrete washout waste in multiple dry washes within the City. City staff indicated that in the past, concrete trucks leaving City Capital Improvement Projects (CIPs), and potentially private projects, have washed out concrete in the washes throughout the City. The City staff further indicated that the City has had a difficult time identifying individuals responsible and despite their efforts to verbally communicate to concrete truck drivers on CIP projects that washing out concrete in the washes is illicit, incidence of wash out continues to occur.

The presence of the observed illicit discharges (as defined in Part I, Section C.1 of the Permit) proceeded by no action taken by City staff to address the discharges may be the result of inadequate training, an inability to detect and identify the source of non-storm water discharges, and absence of an ordinance or regulatory program mechanism to effectively prohibit non-storm water discharges to the storm sewer system. The City needs to address and more clearly define the roles and responsibilities for all employees when they observe an illicit discharge. Additionally, actions are needed to ensure that active illicit discharges are stopped and that measures are enacted to reduce and/or eliminate their future occurrence.

2.1.3 The City had not implemented an outfall inspection program. As stated in Part V, Section B.3.f of the Permit the City is required to “conduct dry weather field screening for non-storm water flows”. In addition, Section 2.3.2 of the City’s SWMP specifies a measurable goal to “Perform dry weather outfall inspections of all known storm water outfalls by December 2007.” At the time of the audit, an inspection program to perform dry weather outfall inspections of the City’s storm water outfalls had not been instituted by the City.

The staff reported that the City intends to partner with Bureau of Land Management (BLM) to fund testing and inspection/sample collection activities at select outfalls in the future. The City stated that the dry weather outfall inspection program would include several major washes with outfalls to Lake Havasu. Based on the BLM statement of work provided to the Audit Team by the City, seven washes in the City’s jurisdiction would be included in the assessment. It should be noted that there is likely more than one hundred outfalls within the City where the MS4 discharges into adjacent washes. The City did not have an inventory of these outfalls available at the time of the audit.

Section 2.2 Construction Site Storm Water Runoff Control

As stated in Part V, Section B.4.a of the Permit the City shall “develop, implement, and enforce a program to reduce pollutants in any storm water runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre.” The construction site storm water runoff control program must include, at a minimum, the specific requirements at Part V, Section B.4. (b) – (e) of the Permit.

On October 26, 2011, the Audit Team conducted site visits at three active construction sites. All three of the sites were private projects with building permits regulated under the authority of the City’s Development Services Department. The purpose of the site visits was to assess the City’s oversight activities for construction sites. Summary observations pertaining to a subset of these sites are presented below where they directly pertain to the City’s oversight obligations under its MS4 permit.

Potential Permit Violations:

2.2.1 The City had not adopted an erosion and sediment control ordinance regulating construction sites. Part V, Section B.4.b of the Permit requires the City to use an ordinance or other regulatory mechanism available under the legal authorities of the Small MS4 to require construction site operators to practice erosion and sediment control and require construction site operators to control and properly dispose of waste. Section 2.4.1 of the City’s SWMP specifies a measurable goal of adopting a construction site management control program including necessary ordinances, with enforcement strategies such as fines and imprisonment. Section 2.4.1 of the SWMP includes an interim schedule by which the activity was to be implemented by December of 2007.

During the audit, the City staff stated they were in the process of attempting to adopt the Mohave County Drainage Design Manual and incorporate elements of the manual into an ordinance for erosion and sediment control on construction sites. In the interim, individuals within the Public Works Department were working with new commercial and industrial developments to include temporary BMPs, first flush retention, and permanent on-site detention for larger sites. Without an ordinance or sufficient legal authority, these efforts were said to be largely voluntary.

The absence of adequate legal authority resulting in the City’s use of voluntary compliance is partially documented in a series of email correspondence between City and ADEQ staff in January 2011 (see Appendix B, Exhibit 3). These emails document that ADEQ informed the City of their need to establish adequate legal authority consistent with the Permit requirements.

2.2.2 The City had not developed policies and procedures to review site plans for construction activities. As stated in Part V, Section B.4.c of the Permit, the City is required to, “review all site plans for those sites described in Part V, Section B.4.a of the Permit for potential water quality impacts, including erosion and sediment control, control of other wastes, and any other impacts that must be examined according to the requirements of the law or ordinance of Part V, Section B.4.b.” Section 2.4.2 of the City’s SWMP specifies measurable goals to develop policies and procedures for plan review of storm water runoff controls and includes an interim schedule by which the activity was to be implemented by December of 2007.

The City recently began requesting copies of the Notice of Intent (NOI) and Stormwater Pollution Prevention Plan (SWPPP) for building permit applicants required to obtain permit coverage under the Arizona Pollutant Discharge Elimination System (AZPDES) General Permit. However, the City has not implemented policies and procedures during the site plan review process to ensure appropriate BMPs for storm water controls are included in site plans. The City’s existing building permit review process does not include guidance on preferred BMPs for the development community or requirements to ensure BMPs are present before groundbreaking activities.

2.2.3 The City had not fully developed and implemented procedures for inspecting construction site storm water BMPs. Part V, Section B.4.d of the Permit requires the City to develop and implement procedures for site inspection and enforcement of control measures. Section 2.4.4 of the City's SWMP specifies measurable goals to, "Generate inspection and enforcement policies and procedures in place and implement the inspection and enforcement program in coordination with plan review policies and procedures." Section 2.4.4 of the SWMP also includes an interim schedule by which the activity was to be implemented by December of 2007. The City staff explained to the Audit Team that formal procedures for conducting construction site inspections or enforcement activities had not been established. However, select individuals within Public Works Department had been attempting to conduct inspections and require the use of BMPs at some individual construction sites.

The City did not have active public construction projects at the time of the audit. However, City staff accompanied by the Audit Team conducted site visits at three private construction projects. The City staff did not provide the Audit Team a copy of a SWPPP or site plan indicating erosion and sediment control BMPs for any of the sites. Additionally, the City staff had not inspected the three sites to ensure storm water BMPs were installed and effective. The following sites were visited: Havasu Foothills development; a single-family home lot on Sunny Ridge Drive; and the Telesis Preparatory Academy. At each site, the Audit Team observed significant deficiencies in regards to adequacy, placement, and maintenance of temporary BMPs as described below.

Havasu Foothills, which is located at the top of Cherry Tree Blvd., was a master planned residential development with lots as large as 2-acres that had been constructed in phases and was not fully built out at the time of the audit. During the site visit, the Audit Team observed rill and gully erosion (see Appendix C, Photograph 8) on the backside of residential lots potentially discharging down to the Indian Bend Wash. Fiber rolls were observed approximately 10-feet from the base of the slope (see Appendix C, Photograph 9), however, BMPs at the top of the slopes were not observed and no other erosion or sediment control BMPs were observed on the face of the slopes. A displaced hay bale (see Appendix C, Photograph 10) was observed in the Indian Bend Wash on the upstream side of the culvert and geotextile fabric (see Appendix C, Photograph 11) was exposed on the downstream side of the culvert where riprap had washed out. At Lot #6, Tract 2372 in the Havasu Foothills development, rill and gully erosion (see Appendix C, Photograph 12) was observed on the side of the lot sloping down to the sidewalk potentially discharging to the MS4. An earthen berm was constructed along the top boundary of the graded pad; however, the berm only extended along one side of the pad bordering an adjacent lot (see Appendix C, Photograph 13). Similar conditions were observed at other adjacent and nearby lots as well. Additionally, the Audit Team observed sediment tracking from a disturbed lot onto the roadway and in the curb and gutter (see Appendix C, Photograph 14) at the intersection of Cabrio and Lago and a material storage area with multiple stockpiles and concrete washout waste (see Appendix C, Photographs 15 and 16) adjacent to a curb cut close to the intersection of Terra Vista and Del Sol potentially discharging to the wash. Information about the master planned community is available at <http://www.havasufoothills.com/index.html>.

City staff and the Audit Team conducted a site visit at 985 Sunny Ridge Drive. The property was a single-family residential lot, originally permitted with an adjacent lot that has since been built on. According to City staff the vacant lot had an active grading permit at the time of the audit. The lot had been graded; however, no BMPs were observed on site. Per the City staff, a berm had not been constructed along boundary of property as required under the grading permit. The lot was an upward sloping lot (above street level) and no BMPs were observed on the slope down to the road or at the base or top of slope to prevent erosion or capture sediment (see Appendix C, Photograph 17). Additionally, the lot backed up to a floodplain or wash and no erosion and sediment control BMPs were observed along the boundary of the site to prevent sediment from leaving site and entering the adjacent floodplain (see Appendix C, Photograph 18).

The Audit Team and City staff conducted a site visit at the Telesis Preparatory Academy located at 2598 Starlite Lane. The City staff stated that the school had a building permit for the footprint of construction for one new building and the permit did not include any existing school buildings on site or the open lot across Starlite Lane. Vertical construction of the new building appeared to be near completion and masonry work was underway at the time of the audit. During the site visit a stockpile of mortar sand used for stucco was observed on top of visquine; however, the stockpile did not have perimeter controls in place (see Appendix C, Photograph 19). A small ramp along the sidewalk/curb had been constructed using fine material, rather than a larger less erodible aggregate (see Appendix C, Photograph 20). The site had a designated area that was contained for concrete washout (see Appendix C, Photograph 21). The open lot across the street from the newly constructed building was used for parking and construction-related storage including material stockpiling and container storage (see Appendix C, Photograph 22). While the construction of the new building may not exceed the 1-acre, construction-related material storage at the lot across the street should be included in area of disturbance potentially exceeding the 1-acre threshold.

It should be noted that a review of ADEQ's Notice of Intent database for coverage under the 2008 AZPDES Construction General Permit (CGP) for Lake Havasu City as of October 11, 2011 did not contain the three sites listed above. The 985 Sunny Ridge Drive site and the City permitted footprint of the Telesis Preparatory Academy may not have exceeded the 1-acre threshold. However, when the equipment storage and stockpiling at the Telesis Preparatory Academy was added it appeared to the Audit Team that the site likely exceeded 1-acre. The Havasu Foothills development clearly exceeded 1-acre and City representatives stated that the development had obtained CGP coverage in the past. At the time of the inspection only limited individual home building was occurring and portions of the site appeared to lack final stabilization. The current CGP permit status of the site was unknown.

Deficiency Noted:

2.2.4 The City had not developed technical guidance materials for designing and maintaining storm water runoff. Section 2.4.3 of the City's SWMP specifies measurable goals to "develop, adopt and distribute technical guidance materials coinciding with the plan review process (3.4.2) and enforcement strategies (3.4.4)." Section 2.4.3 of the SWMP also includes an interim schedule by which the activity was to be implemented by December of 2007.

Aside from developing educational brochures for illicit discharge and stormwater pollution awareness, the City had not developed technical guidance materials specific to the Lake Havasu City area for the development community. The City is considering adopting the Mohave County Drainage Design Manual Regulations, however, adoption of the Manual had not yet occurred. The 2010-2011 Annual Report (Year 9) submitted by the City to ADEQ states that a Pre-Application process had been implemented that provided developers/builders materials on SWPPP and other drainage issues. However, the City was unable to provide documentation to the Audit Team that included references to SWPPP development or implementation, technical guidance materials, or checklists related to designing or maintaining storm water runoff provided to the developers/builders during the Pre-Application process.

Section 2.3 Post-Construction Storm Water Management in New Development and Redevelopment

As stated in Part V, Section B.5.a of the Permit, the City is required to "develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, and discharge into the small MS4". The post-construction storm water management program must include, at a minimum, the specific requirements at Part V, Section B.5. (b) – (e) of the Permit.

Potential Permit Violations:

2.3.1 The City had not developed strategies that included a combination of structural and/or non-structural BMPs. As stated in Part V, Section B.5.b of the Permit the City is required to “develop and implement strategies that include a combination of structural and/or non-structural BMPs appropriate for the community.” The Audit Team was unable to identify strategies developed by the City to require structural and/or non-structural controls as appropriate on developments greater than one acre.

The City staff indicated no source and structural treatment controls have been installed within the City with the exception of select national entities, such as Wal-Mart and Home Depot, which implemented the controls voluntarily as part of their standard development practice. Without strategies to require structural and/or non-structural BMPs, the designer or project proponent may be given full authority to decide which BMP or suite of BMPs is appropriate for a given project.

2.3.2 The City had not adopted an ordinance regulating post-construction runoff from new development and redevelopment projects. Part V, Section B.5.c of the Permit requires the City to “use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under the legal authorities of the small MS4.” Section 2.5.1 of the City’s SWMP specifies measurable goals to adopt a post-construction storm water runoff ordinance by the renewal of the permit. Section 2.5.1 of the SWMP includes an interim schedule by which the activity was to be implemented by December of 2007.

At the time of the audit, the City lacked an ordinance that requires structural and source control on developments greater than one acre. The City is considering adopting the Mohave County Drainage Design Manual Regulations; however, adoption of the Manual had not yet occurred and the City staff was not able to provide a time frame for adoption of the Manual. The adequacy of the Mohave County Drainage Design Manual Regulations to address requirements for structural and source control BMPs was not assessed during the course of the inspection. Therefore, it was not determined if adoption of the design manual would provide a mechanism to sufficiently address the requirements for post-construction runoff from new developments and redevelopments and conform to permit requirements.

The absence of adequate legal authority to regulating post-construction runoff is partially documented in email correspondence between City staff in November 2010 (see Appendix B, Exhibit 4). These emails document the limited authority of the City to require developers to address post-construction runoff.

Deficiency Noted:

2.3.3 The City did not maintain an inventory of post-construction BMPs implemented in the City’s jurisdiction as a component of the MS4. As stated in Part V, Section B.5.d of the Permit the City is required to “ensure adequate long-term operation and maintenance of BMPs.”

The Audit Team formally requested a “database/map of post-construction BMPs with location and maintenance status (differentiating municipally owned and operated from private)” (see Appendix B, Exhibit 1, Item No. 28), but the City did not provide the requested records. The City had not developed a process to track post-construction BMPs or implemented policies to ensure on-going maintenance of post-construction BMPs. The City staff indicated a few national entities had constructed post-construction BMPs in the past; however, this information was based on institutional knowledge and there was no inventory of post-construction BMPs implemented within the City. The Audit Team believes that a BMP tracking and inventory system is vital for ensuring adequate long-term operation and maintenance of BMPs.

2.3.4 The City had not developed or adopted technical guidance materials for design and maintenance of post-construction BMPs. Section 2.5.2 of the City's SWMP specified a measurable goal to develop technical guidance for post-construction BMPs and distribute to the development community. Section 2.5.2 of the SWMP includes an interim schedule by which the activity was to be implemented by December of 2007.

The City is considering adopting the Mohave County Drainage Design Manual Regulations. However, adoption of the Manual had not yet occurred and the City staff did not provide a date for which adoption would likely occur.

2.3.4 The City had not developed policies and procedures for plan review of new development projects for post-construction BMPs. Section 2.5.3 of the City's SWMP specifies measurable goals for developing policies and procedures for plan review prior to renewal of the permit and includes an interim schedule by which the activity was to be implemented by December of 2007. The City staff indicated the City had not yet developed policies and procedures for reviewing new development projects for post-construction BMPs.

Policies and procedures for reviewing plans ensures post-construction BMPs are included in site plans for new development projects and provides a means for the City to determine if the post-construction BMPs planned for a specific project would remove or treat pollutants of concern (POCs). The City did not provide a schedule to the Audit Team indicating a tentative date for implementing the measurable goal specified in Section 2.5.3. of the SWMP.

Based on the observations in sections 2.3.1 through 2.3.4, the Audit Team recommends that the City develop a structured program to provide guidance, inspect, track and subsequently ensure long-term operation and maintenance of post-construction BMPs.

Section 2.4 Pollution Prevention/Good Housekeeping for Municipal Operations

As stated in Part V, Section B.6.a of the Permit the City is required to "develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations due to activities, including but not limited to park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance." Provisions in Part V, Section B.6.a. (i)-(iii) establishes specific requirements to be addressed as part of the operation and maintenance program.

Potential Permit Violations:

2.4.1 The City had not conducted training to educate City employees about pollution prevention and identifying and eliminating prohibited discharges. As stated in Part V, Section B.6.a of the Permit requires the City to "develop and implement an operation and maintenance program that includes a training component that has the ultimate goal of preventing or reducing pollutant runoff from municipal operations..." Section 2.6.2 of the City's SWMP specifies measurable goals to "develop and implement employee training program by December 2007, then have annual refresher courses."

The City had developed a written training program for municipal employees and provided a copy of the training to the Audit Team (see Appendix B, Exhibit 5). However, the City had not yet conducted training for any staff. The Audit Team conducted a site visit to the Lake Havasu Public Works Maintenance Facility and was informed by a City representative that municipal employees working at the facility had not received training. Given the occurrence of active illicit discharges during the audit and the numerous potential pollutant sources observed at the maintenance facility and municipal yard to be discussed further in section 2.4.3, training needs to be provided to specifically address pollution prevention practices, illicit

discharge identification, and staff responsibilities for eliminating and/or reducing such discharges and pollutant sources when observed.

2.4.2 Improper pollution prevention practices were noted during site visits at municipal facilities.

Part V, Section B.6.a.ii of the Permit specifies that the operation and maintenance program shall include controls to reduce or eliminate the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas, and salt and sand storage locations and snow disposal areas.” Section 2.6.3 of the City’s SWMP specifies measurable goals to “evaluate as many possible operations and facilities as possible by December 2007 and then continue four inspections annually.” Additionally, the measurable goals indicates that depending on the evaluation findings a pollution prevention plan would be modified and implemented and employee training would be provided.

During the site visits to the Lake Havasu Public Works Maintenance Facility, located at 2330 McCulloch Blvd. N., and the Streets Department Yard, located at the end of Sweetwater Ave., the Audit Team identified site concerns pertaining to improper pollution prevention practices. For example, inadequate controls for erosion and sediment control from material stockpiling and storage area and improper storage of hazardous materials.

The Public Works Maintenance Facility was used as a central parking area for City buses, work trucks, tandem trucks, water trucks, sweepers, boot trucks, vactor trucks, loaders, hoptoes, graders, and various other types of equipment and vehicles. Additionally, the facility had administrative offices, vehicle and equipment maintenance shops, material stockpiling and storage areas, a hazardous material storage area, and a vehicle wash rack. The Audit Team was informed by a City representative that the facility did not have a stormwater pollution prevention plan (SWPPP), employees working at the facility had not received pollution prevention training, and there was not a designated point person managing the facility because multiple City Departments operated out of the facility each with their own representative. During the site visit the Audit Team observed multiple aggregate stockpiles, as well as used oil and used antifreeze storage, drums with unidentified substances, and a battery storage area not under a cover roof (see Appendix C, Photographs 23 through 25). An area designated as hazardous material storage was observed within a chain link fenced area, however, the material was not covered and did not have secondary containment (see Appendix C, Photographs 26). Staining on asphalt was observed in the construction equipment parking area (see Appendix C, Photograph 27). A concrete mixer was observed on an impervious surface and concrete washout from the mixer was visible (see Appendix C, Photograph 28).

During the site visit to the Street Department’s yard, the Audit Team observed material stockpiling, including both aggregate and street sweeping refuse, a vehicle maintenance parking area, trailer and equipment parking, and storage of corrugated pipe, concrete barriers, street light posts and other material used by the Streets Department (see Appendix C, Photographs 29 and 30). Perimeter controls were not deployed in the material stockpile areas and two catch basins were observed down gradient of the material storage and stockpiling areas with no inlet protection (see Appendix C, Photographs 31 and 32). Degraded asphalt slurry was also observed around one of the grate inlets.

Improved housekeeping and better material storage practices are required at the Maintenance Facility and Streets Yard. The City should consider performing site-specific storm water evaluations and implementing BMPs and pollution prevention methods as needed at the city-owned facilities.

2.4.3 The City had no inventory of municipal facilities and activities. Part V, Section B.6.b.i of the Permit specifies that a list of municipal operations impacted by the operations and maintenance program be included in the SWMP.

The Audit Team formally requested an “inventory/map of municipal facilities/corporate yards” (see Appendix B, Exhibit 1, Item No. 31), but the City did not provide the requested records. Additionally, an

inventory of municipal facilities was not included in the SWMP as required in Part V, Section 6.b.i. of the Permit.

Deficiency Noted:

2.4.4 Improper pollution prevention practices from municipal activities were noted within the MS4. As stated in Part V, Section B.6.a.ii of the Permit the operation and maintenance program shall include, “controls to reduce or eliminate the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas, and salt and sand storage locations and snow disposal areas.” Section 2.6.1 of the City’s SWMP specifies measurable goals to “review City street sweeping program, recommend changes or modifications to street sweeping procedures, equipment, schedules, and priorities.” This would be completed by December 2007.

The Audit Team observed street sweeping refuse deposited at the top of multiple washes (see Appendix C, Photograph 33) which would be considered a prohibited discharge to the MS4. The City should implement procedures to ensure any refuse from street sweeping activities is handled immediately and the practice of placing refuse at the top of the washes is avoided.

The Audit Team also observed washout in roadways coming from residential properties. The City representative stated that a bobcat is used to clean up washout (see Appendix C, Photograph 34) on roadways and the material is deposited at the top of the washes (see Appendix C, Photograph 35) until equipment is available to load and haul the material. Once available, a loader is brought on site to load the washout into a truck and then it is hauled to a designated area. However, the equipment is not always available immediately, so in the interim the washed out material is left at the top of the washes with no controls in place to prevent discharging into the wash. This would be considered a prohibited discharge to the MS4.

The Audit Team recommends the City review the street sweeping program and implement procedures to ensure refuse and washout materials are managed properly. The system of washes throughout the City are a vital part of the MS4, therefore, implementation of pollution prevention measures and good housekeeping practices in and around the washes is a critical part of the storm water management program.

2.4.5 The City had not developed a SWPPP for its maintenance facility that may be subject to the Multi-Sector General Permit for Industrial Storm Water Discharges. The Audit Team visited the Lake Havasu Public Works Maintenance Facility. Due to the activities performed on site including fueling, washing, and vehicle maintenance, the facility may be subject to the AZPDES Multi-Sector General Permit (MSGP) for Stormwater Discharges Associated with Industrial Activity from Non-Mining Facilities. If the Maintenance Facility is identified by SIC/Activity Codes 4111-4173, Local and Highway Passenger Transportation, it is subject to comply with the requirements outlined in Part 8, Sector P, Land Transportation and Warehousing of the MSGP. Under the MSGP, the City would be required to obtain permit coverage, develop a SWPPP, implement control measures related to vehicle and equipment storage areas, fueling areas, material storage areas, vehicle and equipment cleaning areas, and vehicle and equipment maintenance areas, provide employee training annually, and conduct inspections.

The City should consider evaluating the activities conducted at the Public Works Maintenance Facility, determine if the facility is subject to the MSGP, obtain permit coverage if required, and develop and fully implement a SWPPP. As required under Part V, Section B.6.a of the MS4 Permit, the City is still required to develop and implement an operations and maintenance program to prevent or reduce pollutant runoff from municipal operations. The City should strive to lead by example and fully develop and implement operation and maintenance programs at all City-owned facilities.

Appendix A

Audit Schedule

Proposed Agenda for MS4 Program Evaluation of the City of Prescott, AZ

March 21-22, 2012

(Subject to modification)

Day	Time	Program Area/ Agenda Item
Wednesday March 21, 2012	8:30 am - 9:00 am	Kick-off Meeting & Program Management Overview
	9:00 am - 9:30 am	Public Education, Outreach, Participation, and Involvement and Granite Creek Watershed Improvement Council
	9:30 am - 12:00 pm	Illicit Discharge Detection and Elimination Municipal Operations Pollution Prevention/Good Housekeeping (Office)
	12:00 pm - 1:00 pm	Lunch Break
	1:00 pm - 4:00 pm	Illicit Discharge Detection and Elimination Municipal Operations Pollution Prevention/Good Housekeeping (Field)
Thursday Mar 22, 2012	8:30 am - 10:30 am	Construction/Post-Construction (Office)
	10:30 am - 12:00 pm	Construction/Post-Construction (Field)
	12:00 pm - 1:00 pm	Lunch Break
	1:00 pm - 2:30 pm	Construction/Post-Construction (Field)
	2:30 pm - 3:00 pm	TMDL's, Measuring Program Effectiveness, or Follow- up on Prior Items
	3:30 pm - 4:00 pm	Closing Conference ¹ Tentative time slot

¹ The City is encouraged to invite representatives from all applicable organizational divisions/departments.

Appendix B

Exhibit Log

Exhibit 1
Opening Meeting Sign-in Sheet March 21, 2012

CAO
3/21/12

INSPECTION SIGN-IN SHEET

ENTITY:		DATE(S):
NAME	ORGANIZATION/DEPT	TITLE
Brend Frisk	TRANSFER STATION CITY OF Prescott	Superintendent
BRIAN SCOT	STREETS C.O.P.	SUPERVISOR
WES GANTER	PG-ENV	Principal
Cristian Kistemann	ADEQ	EPS
ROY FISHER	FLEET MAINT. CITY OF PRESCOTT	SUPERVISOR
Charlie Potts	Fleet Maintenance Supt. City of Prescott	Supt.
Amanda Richardson	Prescott Creeks Preservation Assoc.	Watershed Program Coordinator
Michael Byrd	Prescott Creeks	EXECUTIVE DIRECTOR
EILEEN DUNN	ADEQ	PROJECT MANAGER - HYDRO III
Bobbie King	COP Streets Superintendent	→
GREG TOTH	COP CITY DRAINAGE	CITY DRAINAGE ENGINEER
Joel Berman	COP Utilities Manager	←→ Public Works
Jesse Holyfield	WWTP	Supervisor of operations
ALLEN DAVIDSON	C.O.P. Sewerage WWTP	OPERATIONS SUPERVISOR
SCOTT GREGORIO	C.O.P.-WASTEWATER	SUPERINTENDENT
Gwen Rowitsch	COP/Engineering	Engineering Technician
Scott J. Tkach	COP/Engineering	CITY ENGINEER

Exhibit 2
Notice of Program Evaluation and EPA Records Request, dated
March 21 - 22, 2012

**MS4 PROGRAM EVALUATION
CITY OF PRESCOTT, AZ
MARCH 21 —22, 2012**

Records requested to be available on-site:

Program Management/ Kick-off Meeting

1. Current Storm Water Management Program document—written description of your current MS4 Programs/Program Areas
2. Program organizational chart and/or a description of the departments involved in the implementation of your MS4 program and their responsibilities
3. Current MS4 permitted area, land use, and receiving waters map—City and County background, demographics, and context
4. Any formal agreements with other local governments for implementation of your MS4 programs (e.g., watershed improvement council)

Public Education, Outreach, Participation, Involvement

5. Examples of program materials, news paper articles, agreements with other partners, data demonstrating program achievements and measureable goals
6. Surveys or tangible examples of improved awareness and behavioral changes

Illicit Discharge and Elimination

7. Storm drain system map and onsite demonstration of any associated mapping tools. Emphasize layers/mapping that informs the MS4 program activities (e.g., storm drain system, structural controls, outfalls, receiving waters, etc.)
8. A representative schedule, map, or description of any outfall inspection program used to identify illicit discharges and/or connections.
9. An inventory of businesses, entities, or areas inspected, visited, or observed as part of the illicit discharge program. Also provide a copy of the inspection form used by city inspectors.
10. Onsite demonstration of the database or system used to record illicit discharge incident information. As part of this effort, 2 - 3 hardcopy examples of a completed illicit discharge incident that includes identification, response, and remedy. At least one of the examples should include an example/case file of an incident where enforcement was used (ideally full extent of enforcement authority).

Construction Site Storm Water Runoff Control

11. All ordinances pertaining to land disturbing activities (e.g., erosion and sediment control)
12. All other construction-related regulatory mechanisms (e.g., land disturbance or grading permit)
13. Erosion and Sediment (E&S) Control Plan/SWPPP review checklist
14. Construction site plan review procedures
15. Construction BMP Manual

16. Construction inspection and enforcement procedures
17. Construction inspection field checklist
18. Construction inspection records (most recent Reporting Year)
19. Inventory/map of current active construction sites with location—EPA Inspection Team will select specific sites at the time of the inspection
20. Example/case file of a construction site issue where enforcement of local ordinance was used (ideally full extent of enforcement authority)
21. Records of follow up actions to citizen/employee complaints regarding construction site issues (most recent Reporting Year)
22. Training records and syllabus (i.e., training content) for educating construction site operators and municipal operations staff (most recent Reporting Year)

Post-Construction Storm Water Management

23. All post-construction related ordinances and regulatory mechanisms pertaining to development and redevelopment
24. Example post-construction BMP plan
25. Post-construction plan review checklist
26. Post-construction BMP Manual and design standards
27. Database/map of post-construction BMPs with location and maintenance status (differentiating municipally owned and operated from private)
28. Records of post-construction BMP maintenance inspections (most recent Reporting Year), if any
29. Requirements for long-term operation and maintenance of post-construction BMPs, if any

Pollution Prevention/Good Housekeeping for Municipal Operations

30. Inventory/map of municipal facilities/corporate yards
31. Example Storm Water Pollution Prevention Plan—EPA Inspection Team may select additional sites at the time of the inspection
32. Municipal employee training records and syllabus (i.e., training content) on pollution prevention and IDDE
33. Standard operating procedures (SOPs) and checklists used for conducting municipal facility inspections
34. Records (i.e., completed checklists) for municipal facility inspections (most recent Reporting Year)—EPA Inspection Team will select specific sites at the time of the inspection

TMDL Implementation

35. If applicable, onsite presentation and discussion of the City's efforts to meet TMDL Wasteload Allocations and/or development of TMDL Implementation Plans.

***Note: In addition to the numbered items requested, also provide any other documents or tools that you believe demonstrate program development and structure.**

Exhibit 3
City of Prescott Training Outline

CAO
3/22/12



Public Works Department

433 N. Virginia Street
Prescott AZ 86301
928-777-1130

CITY OF PRESCOTT TRAINING OUTLINE:

1. Construction Inspectors (6)
 - SWPPP Training for two new employees 2012
 - SWPPP Training Update for 3 existing employees 2012
2. Non-Mining Industrial Activities (City Operations)
 - Supervisor Training and Implementation of SWPPP's – March 2012
 - Development of Training Video – July 2012
 - Implementation of Training Video to all existing on-site employees – August 2012
 - Training Video will be reviewed annually by all employees
 - All new hires will view Training Video as part of new hire orientation

Exhibit 4
2007 City of Prescott Post Construction Stormwater Runoff
Regulation Code

WG
3/22/12

2007 City of Prescott Post Construction Stormwater Runoff Regulation Code

Section 1 - General Provisions

1.1 The purpose of this ordinance is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing in watersheds within this jurisdiction. This ordinance seeks to meet that purpose through the following objectives:

1. Minimize increases in stormwater runoff from any development in order to reduce flooding, siltation and stream-bank erosion and maintain the integrity of stream channels;
2. Minimize increases in non-point source pollution caused by stormwater runoff from development which would otherwise degrade local water quality;
3. Minimize the total annual volume of surface water runoff which flows from any specific site during and following development to not exceed the pre-development hydrologic regime to the maximum extent practicable;
4. Reduce stormwater runoff rates and volumes, soil erosion and non-point source pollution, wherever possible, through stormwater management controls and to ensure that these management controls are properly maintained and pose no threat to public safety.

1.2 ~~This ordinance shall be applicable to all subdivision or site plan applications, unless eligible for an exemption or granted a waiver by the City of Prescott under the specifications of Section 4 of this ordinance.~~ The ordinance also applies to land development activities that are smaller than the minimum applicability criteria if such activities are part of a larger common plan of development.

1.3 This ordinance is not intended to interfere with, abrogate, or annul any other ordinance, rule or regulation, statute, or other provision of law. The requirements of this ordinance should be considered minimum requirements, and where any provision of this ordinance imposes restrictions different from those imposed by any other ordinance, rule or regulation, or other provision of law, whichever provisions are more restrictive or impose higher protective standards for human health or the environment shall be considered to take precedence.

1.4 This Ordinance is written to be compatible with, and used in conjunction to the City's Construction Site Erosion and Sediment Control Ordinance; and any repetitive sections or requirements are intended as required under the federal Clean Water Act and the National pollution Discharge Elimination System (NPDES) regulations.

1.5 If the provisions of any article, section, subsection, paragraph, subdivision or clause of this ordinance shall be judged invalid by a court of competent jurisdiction, such order of judgment shall not affect or invalidate the remainder of any article, section, subsection, paragraph, subdivision or clause of this ordinance.

1.6 The City of Prescott may furnish additional policy, criteria and information including specifications and standards, for the proper implementation of the requirements of this ordinance and may provide such information by amending the City of Prescott Drainage Criteria Manual. This manual will include a list of acceptable stormwater treatment practices, including the specific design criteria and operation and maintenance requirements for each stormwater practice. Stormwater treatment practices that are designed

and constructed in accordance with these design and sizing criteria will be presumed to meet the minimum water quality performance standards.

Section 2 - Definitions

Accelerated Erosion - Erosion caused by development activities that exceeds the natural processes by which the surface of the land is worn away by the action of water, wind, or chemical action.

Enforcement Agency - Any employees or designees of the Director of Engineering Services designated to enforce this regulation.

Applicant - Any property owner or agent of a property owner who has filed an application for a stormwater management permit.

Arizona Department of Environmental Quality (ADEQ) - is the state agency charged with enforcement of environmental laws and regulations.

Building - Any structure, either temporary or permanent, having walls and a roof, designed for the shelter of any person, animal, or property, and occupying more than 100 square feet of area.

Channel - Any natural or artificial watercourse with a definite bed and banks that conducts continuously or periodically flowing water.

Dedication - The deliberate appropriation of property by its owner for general public use.

Detention - The temporary storage of storm runoff in a stormwater management practice with the goals of controlling peak discharge rates and providing gravity settling of pollutants.

Detention Facility - A basin or alternative structure designed for the purpose of temporary storage of stream flow or surface runoff and gradual release of stored water at controlled rates.

Developer - Any person who undertakes land disturbance activities.

Drainage Easement - A legal right granted by a landowner to a grantee allowing the use of private land for stormwater management purposes.

Drainage Way - Any man-made or natural channel or device that conveys concentrated or sheet- flow surface runoff through, across or over a site.

Fee in Lieu - A payment of money in place of meeting all or part of the storm water performance standards required by this ordinance.

Hotspot - An area where land use or activities generate highly contaminated runoff, with concentrations of pollutants in excess of those typically found in stormwater.

Impervious Cover - Surfaces that cannot effectively infiltrate rainfall (e.g., building rooftops, pavement, sidewalks, driveways, etc).

Industrial Stormwater Permit - The National Pollutant Discharge Elimination System permit issued to a commercial industry or group of industries which regulates the pollutant levels associated with industrial stormwater discharges or specifies on-site pollution control strategies.

Infiltration - The process of percolating or absorption of stormwater into surface and subsurface soils or other filtration mediums.

Infiltration Facility - Any structure or device designed to accommodate or promote infiltration of captured site runoff for pollutant removal. These facilities may be above grade or below grade.

Jurisdictional Wetland - An area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions.

Land Disturbance Activity - Any activity which changes the volume or peak flow discharge rate of rainfall runoff from the land surface. This may include the grading, digging, cutting, scraping, or excavating of soil, placement of fill materials, paving, construction, substantial removal of vegetation, or any activity which bares soil or rock or involves the diversion or piping of any natural or man-made watercourse.

Landowner - The legal or beneficial owner of land, including those holding the right to purchase or lease the land, or any other person holding proprietary rights in the land.

Maintenance Agreement - Any legally recorded document that acts as a property deed restriction, and which provides for long-term maintenance of storm water management practices.

Non-point Source Pollution - Pollution from any source other than from any discernible, confined, and discrete conveyances, and shall include, but not be limited to, pollutants from agricultural, mining, construction, subsurface disposal and urban runoff sources.

Offset Fee - A monetary compensation paid to a local government for failure to meet pollutant load reduction targets.

Off-Site Facility - A stormwater management measure located outside the subject property boundary described in the permit application for land development activity.

On-Site Facility - A stormwater management measure located within the subject property boundary described in the permit application for land development activity.

Site - A parcel of land or a contiguous combination thereof, where grading work is performed as a single unified operation.

Stabilization - The use of practices that prevent exposed soil from eroding.

Start of Construction - The first land-disturbing activity associated with a development, including land preparation such as clearing, grading, and filling or any other site related activity.

Stop Work Order - An order issued which requires that all construction activity on a site be stopped.

Stormwater Management - The use of structural or non-structural practices that are designed to reduce storm water runoff pollutant loads, discharge volumes, peak flow discharge rates and detrimental changes in stream temperature that affect water quality and habitat.

Stormwater Runoff - Flow on the surface of the ground, resulting from precipitation.

Stormwater Treatment Practices (STP) - Measures, either structural or nonstructural, that are determined to be the most effective, practical means of preventing or reducing point source or non-point source pollution inputs to stormwater runoff and water bodies.

Water Quality Volume (WQV) - The storage needed to capture and treat 90% of the average annual stormwater runoff volume. Numerically WQV will vary as a function of long term rainfall statistical data.

Watercourse - Any body of water, including but not limited to lakes, ponds, seasonal and perennial creeks, and wetlands delineated by the City of Prescott.

Waterway - Any channel or device that directs surface runoff to a watercourse or to a public storm drain.

Section 3 - Permit Requirements

All applicable aspects of this code shall be reviewed and approved as part of the City of Prescott Site Disturbance and Grading Permit as required under City of Prescott development and permitting regulations.

Section 4 - Waivers to Stormwater Management Requirements

4.1 Requests to waive the stormwater management plan requirements shall be submitted to the City of Prescott for review. The minimum requirements for stormwater management may be waived in whole or in part upon written request of the applicant, provided that at least one of the following conditions applies:

1. Alternative minimum requirements for on-site management of stormwater discharges have been established in a stormwater management plan that has been approved by the City of Prescott.
2. Provisions are made to manage stormwater by an off-site facility approved by the City of Prescott. The off-site facility is required to be in place, to be designed and adequately sized to provide a level of stormwater control that is equal to or greater than that which would be afforded by on-site practices and there is a legally obligated entity responsible for long-term operation and maintenance of the stormwater practice.

4.2 Where compliance with minimum requirements for stormwater management is waived, the applicant will satisfy the minimum requirements by meeting one of the mitigation measures selected by the City of Prescott. Mitigation measures may include, but are not limited to, the following:

1. The purchase and donation of privately owned lands, or the grant of an easement to be dedicated for preservation and/or reforestation. These lands should be located adjacent to the stream corridor in order to provide permanent buffer areas to protect water quality and aquatic habitat.
2. The creation of a stormwater management facility or other drainage improvements on previously developed properties, public or private, that currently lack stormwater management facilities designed and constructed in accordance with the purposes and standards of this ordinance.
3. Monetary contributions (Fee-in-Lieu) to fund stormwater management activities such as research and studies (e.g., regional wetland delineation studies, stream monitoring studies for water quality

and macro-invertebrates, stream flow monitoring, threatened and endangered species studies, hydrologic studies, and monitoring of stormwater management practices.

4.3 When an applicant obtains a waiver of the required stormwater management, the monetary contribution required shall be in accordance with a fee schedule or by an agreed valuation established by the City of Prescott. All of the monetary contributions shall be credited to an appropriate capital improvements program project, and shall be made by the developer prior to the issuance of any building permit for the development.

4.4 In lieu of a monetary contribution an applicant may, if agreed to by the City of Prescott, obtain a waiver of the required stormwater management by entering into an agreement with the City of Prescott, for the granting of an easement or the dedication of land by the applicant, to be used for the construction of an off-site stormwater management facility. The agreement shall be entered into by the applicant and the City of Prescott prior to the recording of plats or, if no record plat is required, prior to the issuance of the building permit.

Section 5 - General Performance Criteria for Stormwater Management

~~5.1 All site designs shall establish stormwater management practices to control the peak flow rates of stormwater discharge associated with specified design storms and reduce the generation of stormwater.~~

5.2 All stormwater runoff generated from new development shall not discharge untreated stormwater directly into a jurisdictional wetland, local water body, or storm sewer system without adequate treatment.

5.3 For new development, structural Stormwater Treatment Practices (STP) shall be designed to remove post development total suspended solids (TSS) by capture of the "first flush" event. It is presumed that a STP complies with this performance standard if it is:

1. Sized to capture the prescribed water quality volume (WQV).
2. ~~Designed according to the specific performance criteria outlined in the City of Prescott Drainage Criteria Manual, ADEQ, or ADOT design manual.~~
3. Constructed properly.
4. Maintained regularly.

5.4 Specific channel protection shall be provided as prescribed in the current City of Prescott Drainage Criteria Manual to protect stream channels from degradation.

5.5 Stormwater discharges to critical areas with sensitive resources (i.e., swimming beaches or public recreation areas, water supply reservoirs, etc.) may be subject to additional performance criteria, or may need to utilize or restrict certain stormwater management practices.

5.6 Stormwater discharges from land uses or activities with higher potential pollutant loadings, known as "hotspots", may require the use of specific structural STPs and pollution prevention practices.

5.7 Prior to design, applicants are required to consult with the City of Prescott to determine if they are subject to additional stormwater design requirements.

5.8 The calculations for determining peak flows as found in the City of Prescott Drainage Criteria Manual shall be used for sizing all stormwater management practices.

Section 6 - Enforcement and Penalties

6.1 Any development activity that is conducted contrary to this Ordinance may be restrained by injunction or otherwise abated in a manner provided by law.

6.2 When or if the City of Prescott determines that an activity is not being carried out in accordance with the requirements of this Ordinance, it shall issue a written notice of violation to the owner of the property.

6.3 Persons receiving a notice of violation will be required to halt all construction activities. This "stop work order" will be in effect until the City of Prescott confirms that the development activity is in compliance and the violation has been satisfactorily addressed. Failure to address a notice of violation in a timely manner can result in civil, criminal, or monetary penalties in accordance with the enforcement measures authorized in this ordinance.

6.4 Civil and Criminal Penalties. In addition to or as an alternative to any penalty provided herein or by law, any person who violates the provisions of this Ordinance shall be punished by a fine of not less than Twenty-Five Hundred Dollars (\$2,500.00) or by imprisonment for a period not to exceed (30) days, or both such fine and imprisonment. Such person shall be guilty of a separate offense for each day during which the violation occurs or continues.

6.5 Occupation permits may be withheld until any and all corrections to all stormwater practices have been made and accepted by the City of Prescott.

Approved by: _____ Date _____

Appendix C

Photograph Log



Photograph 1. Sundog Yard, Transfer and Streets Facility – View of washing of metal fabrication waste flowing south into concrete conveyance.



Photograph 2. Sundog Yard, Transfer and Streets Facility – View of washing of metal fabrication waste flowing south into concrete conveyance and then into on-site earthen drainage ditch.



Photograph 3. Sundog Yard, Transfer and Streets Facility – View of wash pad connected to oil water separator.



Photograph 4. Sundog Yard, Transfer and Street Facility – View of dry well centrally located onsite may require an Aquifer Protection Permit application/NOI.



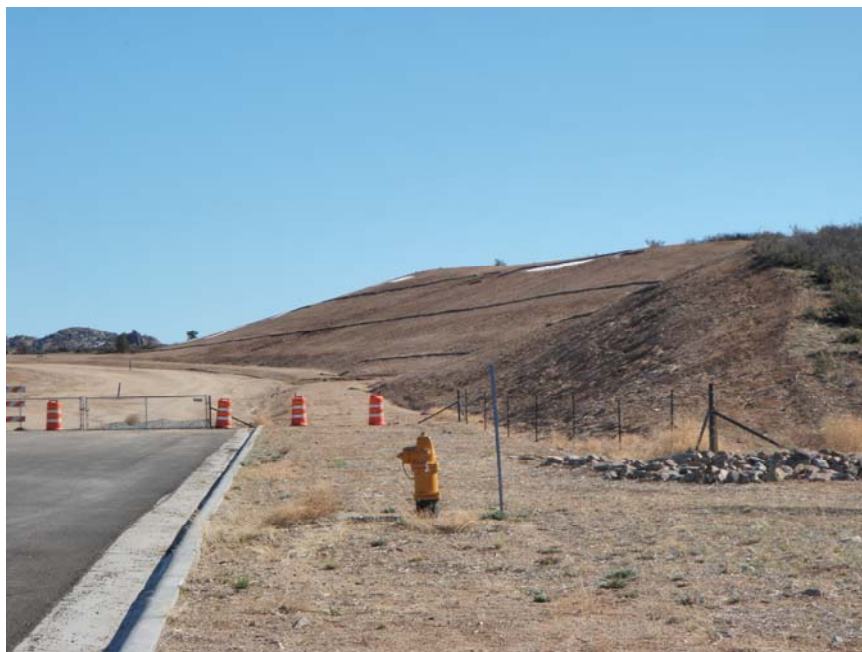
Photograph 5. Falcon Point Subdivisions – Site ground cover and stabilizing slope cover.



Photograph 6. Falcon Point Subdivisions – Close up of site ground cover.



Photograph 7. View of example of stabilization on cut slopes of City roadway project.



Photograph 8. View of example of stabilization on cut slopes of City roadway project.



Photograph 9. North Reservoir Reconstruction Project – Lined concrete washout pit.



Photograph 10. North Reservoir Reconstruction Project – View of trackout pad at entrance to site and downhill end of riprapped roadway ditch.



Photograph 11. Williamson Valley Road Reconstruction Project – View of placement of double straw waddles.



Photograph 12. Williamson Valley Road Reconstruction Project – View of straw waddles placement.



Photograph 13. Williamson Valley Road Reconstruction Project – Closer view of straw waddles placement.



Photograph 14. Williamson Valley Road Reconstruction Project – View of velocity controls downhill of double straw waddles.



Photograph 15. Williamson Valley Road Reconstruction Project – View of Straw Waddles at the bottom of fill stockpile slope.



Photograph 16. Flyz Toy Tub Carwash – view of site entrance facing south. Note pile of rocks for tracking pad not yet deployed.



Photograph 17. Flyz Toy Tub Carwash – Sediment tracked from site entrance onto Gurley Street.



Photograph 18. Flyz Toy Tub Carwash – Additional view of sediment tracked from site onto Gurley Street.



Photograph 19. Natural Grocers Site – Outlet structure draining the majority of the site. Note lack of additional BMPs and waddles appeared ineffective.



Photograph 20. Natural Grocers Site – Closer view of outlet structure draining the majority of the site. Waddles appeared ineffective and in need of replacement.

Appendix D
Arizona Pollutant Discharge Elimination System General
Permit for Discharge From Small Municipal Separate Storm
Sewer Systems (MS4s) to Waters of the United States



STATE OF ARIZONA
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY DIVISION
PHOENIX, ARIZONA 85012-2809

ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM
GENERAL PERMIT FOR DISCHARGE FROM
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)
TO WATERS OF THE UNITED STATES

In compliance with the provisions of the Arizona Pollutant Discharge Elimination System program, (Arizona Revised Statutes, Title 49, Chapter 2, Article 3.1 and Arizona Administrative Code, Title 18, Chapter 9, Articles 9 and 10), this general permit authorizes discharges certified under this general permit from those locations specified throughout the state of Arizona to waters of the United States. These discharges shall be in accordance with the conditions of this general permit.

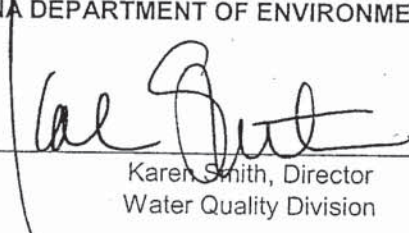
This permit only authorizes discharges from those operators of small municipal separate storm sewer systems in Arizona who submit a complete Notice of Intent in accordance with Parts III and V of this general permit and who comply with the permit requirements and conditions of Parts IV and VI. All discharges authorized by this general permit shall be consistent with the terms and conditions of this general permit.

This general permit becomes effective on December 19, 2002.

This general permit and the authorization to discharge expire at midnight, December 19, 2007.

Issued this 19th day of DEC. 2002.

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY



Karen Smith, Director
Water Quality Division

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PART I. COVERAGE UNDER THIS GENERAL PERMIT

- A. Permit Area. This permit covers the state of Arizona, except for Indian Country.
- B. Eligibility.
 - 1. This permit authorizes the discharge of stormwater from small municipal separate storm sewer systems (MS4s) provided that the permittee complies with all the requirements of this general permit and the MS4:
 - a. Is located fully or partially within an urbanized area as determined by the latest Decennial Census by the Bureau of Census, or
 - b. Is designated for permit authorization by the Department under R-18-9-A902(D)(1), R18-9-A902(D)(2), R-18-9-A902(E), and R18-9-A905(A)(1)(f) which incorporates 40 CFR 122.32.
- C. Non-Stormwater Discharges.
 - 1. The permittee shall prohibit all types of non-stormwater discharges into its MS4 unless the discharges are authorized by a separate NPDES or AZPDES permit or not prohibited under Part I, Section C.2 or are identified by the permittee as occasional incidental non-stormwater discharges under Part V, Section B.3.a.ii.
 - 2. The following categories of non-stormwater discharges (occurring within the jurisdiction of the permittee) are only prohibited if the discharges are identified as significant contributors of pollutants to or from the MS4. If any of the following categories of discharges are identified as a significant contributor, the permittee must address the category as an illicit discharge as specified in Part V, Section B.3:
 - a. Water line flushing,
 - b. Landscape irrigation,
 - c. Diverted stream flows,
 - d. Rising ground waters,
 - e. Uncontaminated ground water infiltration,
 - f. Uncontaminated pumped groundwater,
 - g. Discharges from potable water sources,
 - h. Foundation drains,
 - i. Air conditioning condensate,
 - j. Irrigation water,
 - k. Springs,
 - l. Water from crawl space pumps,
 - m. Footing drains,
 - n. Lawn watering,

- o. Individual residential car washing,
- p. Discharges from riparian habitats and wetlands,
- q. Dechlorinated swimming pool discharges,
- r. Street wash water, and
- s. Discharges or flows from emergency fire fighting activities.

D. Limitations of Coverage. This general permit does not authorize:

- 1. Discharges mixed with sources of non-stormwater unless the non-stormwater discharges:
 - a. Comply with a separate NPDES or AZPDES permit, or
 - b. Are determined not to be a significant contributor of pollutants to waters of the United States;
- 2. Stormwater discharges associated with industrial activity as defined in 40 CFR 122.26(b)(14)(i)-(ix) and (xi);
- 3. Stormwater discharges associated with construction activity as defined in 40 CFR 122.26(b)(14)(x) or 40 CFR 122.26(b)(15);
- 4. Stormwater discharges currently covered under another permit;
- 5. Discharges to impaired waterbodies listed under section 303(d) of the Clean Water Act (CWA) if discharges from the MS4 contain, or may contain, pollutant(s) for which the waterbody is listed except:
 - a. If a TMDL has been established, and the stormwater management program (SWMP) is consistent with the requirements of the TMDL, including any wasteload allocation or load allocation in the TMDL. The SWMP must also identify BMPs the permittee will use to meet wasteload allocations or load allocations and include monitoring for associated pollutant(s); and
 - b. If a TMDL has not been established, and the SWMP includes a section describing how the program will control the discharge of 303(d) listed pollutants and ensure to the maximum extent practicable that discharges from the MS4 will not cause or contribute to exceedances of surface water quality standards. The SWMP must also identify BMPs the permittee will use to control discharges and include monitoring of their effectiveness;
- 6. Discharges that do not comply with Arizona's anti-degradation rule (R18-11-107). The anti-degradation rule may be obtained from the Department's Phoenix office or from the Department's Web site.

PART II. AUTHORIZATION UNDER THIS GENERAL PERMIT

A. Application for Coverage.

- 1. An applicant seeking authorization to discharge under this general permit shall submit to the Department a complete notice of intent (NOI), in accordance with the deadlines in Part III, Section A. The NOI must include the information and attachments required by Part III,

Section B.

If the Department notifies an applicant (either directly, by public notice, or by making information available on the Internet) of other NOI options that become available at a later date, such as electronic submission of forms or information, the applicant may take advantage of those options to satisfy the NOI submittal requirements.

2. If an operator changes or a new operator is added after an NOI has been submitted, the permittee shall submit a new or revised NOI to the Department.
3. A discharger who submits a complete NOI and meets the eligibility requirements in Part I may discharge stormwater from a small MS4 under the terms and conditions of this general permit 30 days after the date the NOI is received by the Department. For the purposes of this permit, receipt is the day the fax was sent, the day the NOI was hand-delivered to the Department, or the day the Department signed certified mail containing the NOI. Submission of the NOI demonstrates the discharger's intent to be covered by this permit; it is not a determination by the Department that the discharger has met the eligibility requirements for the permit.
4. If the Department notifies the applicant of deficiencies or inadequacies in any portion of the NOI (including the stormwater management program), the applicant must correct the deficient or inadequate portions and submit a written statement to the Department certifying that appropriate changes have been made. The certification must be submitted within the time-frame specified by the Department and must specify how the NOI has been amended to address the identified concerns.

B. Terminating Coverage.

1. A permittee may terminate coverage under this general permit by submitting a notice of termination (NOT). Authorization to discharge terminates at midnight on the day the NOT is signed.
2. A permittee shall submit an NOT to the Department within 30 days after the permittee:
 - a. Ceases discharging stormwater from the MS4,
 - b. Ceases operations at the MS4, or
 - c. Transfers ownership of or responsibility for the facility to another operator.
3. The NOT form can be obtained from the Department and must include the following information:
 - a. Name, mailing address, and location of the MS4 for which the notification is submitted;
 - b. The name, address and telephone number of the operator addressed by the NOT;
 - c. The NPDES or AZPDES permit number for the MS4;
 - d. An indication of whether another operator has assumed responsibility for the MS4, the discharger has ceased operations at the MS4, or the stormwater discharges have been eliminated; and
 - e. The following certification:

I certify under penalty of law that all stormwater discharges from the identified MS4 that are authorized by an AZPDES general permit have been eliminated, or that I am no longer the operator of the MS4, or that I have ceased operations at the MS4. I understand that by submitting this Notice of Termination I am no longer authorized to discharge stormwater under this general permit, and that discharging pollutants in stormwater to waters of the United States is unlawful under the Clean Water Act where the discharge is not authorized by an AZPDES permit. I also understand that the submission of this Notice of Termination does not release an operator from liability for any violations of this permit or the Clean Water Act.

- f. NOTs, signed in accordance with Part VI, Section L, must be sent to the Department at the following address:

Small MS4 NOT
Surface Water Permits Unit (5415 B)
Arizona Department of Environmental Quality
1110 West Washington
Phoenix, AZ 85007

PART III. NOTICE OF INTENT REQUIREMENTS

A. Deadlines for Notification.

1. MS4s automatically designated under R18-9-A905(A)(1)(f) are required to submit an NOI and a stormwater management program or apply for an individual permit by March 10, 2003.
2. MS4s designated under R18-9-A902(D)(1), R18-9-A902(D)(2), or R18-9-A902(E) are required to submit an NOI and a stormwater management program within 180 days of notice (unless the Department provides additional time in the designation notice).
3. New MS4s and New Operators
 - a. For new MS4s within urbanized areas which commence discharges subsequent to March 10, 2003, the NOI must be submitted not later than 30 days prior to commencing discharges.
 - b. For new operators of an existing MS4, the NOI must be submitted not later than two days prior to taking operational control of the MS4.
4. If a late NOI is submitted, the authorization is only for discharges that occur after permit coverage is granted. The Department reserves the right to take appropriate enforcement actions for any unpermitted discharges.

B. Contents of Notice of Intent. An applicant eligible for coverage under this general permit shall submit an NOI to discharge under this general permit. The NOI shall contain the following information:

1. The name, mailing address, and telephone number of the municipal entity applying;
2. An indication of whether the applicant is a federal, state, or other public entity;
3. The urbanized area or core municipality (if not located in an urbanized area) where the small MS4 is located; the county(ies) where the small MS4 is located, and the latitude and longitude of the approximate center of the small MS4;
4. The name of the major receiving water(s) and an indication of whether any of the receiving

waters are on the latest CWA section 303(d) list of impaired waters. If the small MS4 discharges to any 303(d) listed waters, include a certification that the SWMP meets the requirements of Part I, Section D.5;

5. An indication of whether all or a portion of the small MS4 is located in Indian country;
6. If the applicant is relying on another governmental entity to satisfy one or more permit obligations (see Part V, Section D), the identity of that entity(ies) and the element(s) the entity(ies) will be implementing;
7. The name and work position or title of the contact person;
8. The signature of the certifying official, signed in accordance with the signatory requirements of Part VI, Section L; and
9. A stormwater management program (SWMP), including best management practices (BMPs) that will be implemented and the measurable goals for each of the stormwater minimum control measures specified in Part V, Section B., the month and year in which the applicant will start and fully implement each of the minimum control measures or the frequency of the action, and the name of the person(s) responsible for implementing or coordinating the SWMP.
10. The following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. In addition I certify that the permittee will comply with all terms and conditions stipulated in General Permit No. AZG2002-002 issued by the Director.

- C. Where to Submit. The applicant shall submit the signed NOI to the Department at the following address:

Small MS4 NOI
Surface Water Permits Unit, 5415B
Arizona Department of Environmental Quality
1110 West Washington
Phoenix, AZ 85007

- D. Co-Permittees Under a Single NOI.

Any small MS4 that meets the requirements of Part I of this general permit may choose to partner with another regulated MS4 to develop and implement a SWMP. The MS4s may also jointly submit one NOI. If responsibilities are being shared as provided in Part V, Section D, the SWMP must describe which permittees are responsible for implementing each of the minimum measures. All small MS4 permittees are subject to the provisions in Part V, Section E.

PART IV. SPECIAL CONDITIONS

Total Daily Maximum Loads (TMDLs) Allocations Established after Permit Issuance. If a TMDL is established for any waterbody into which the permittee discharges prior to the date that the permittee or applicant submits an NOI, and if that TMDL includes a wasteload allocation or load allocation for a parameter likely to be

discharged by the MS4, the permittee must meet the requirements of the TMDL and/or its associated implementation plan. If a TMDL is approved for any waterbody into which the permittee discharges after the date that the permittee or applicant submits an NOI, the Department may require revisions to the SWMP to ensure that the wasteload allocation, load allocation and/or the TMDL's associated implementation plan will be met. Monitoring of the discharges may also be required, as appropriate, to ensure compliance with the TMDL.

PART V. STORMWATER MANAGEMENT PROGRAM (SWMP)

A. General Requirements. An applicant shall develop, and a permittee shall implement, and enforce a SWMP designed to reduce the discharge of pollutants from a small MS4 to the maximum extent practicable (MEP) to protect water quality. The SWMP shall include management practices; control techniques; system, design, and engineering methods; and other provisions the Department determines appropriate for the control of pollutants.

1. A permittee must fully implement the SWMP, including its measurable goals, no later than December 19, 2007 (except as provided under Part V, Section A.2).
2. If a permittee is required to obtain permit coverage after March 10, 2003, the permittee shall implement the SWMP, including its measurable goals, for the period between the date of authorization to discharge and the expiration date of this permit. For example, if the permittee was authorized to discharge under this permit on March 10, 2006 the measurable goals established in the SWMP for the period between 2006 and the expiration date of this general permit must be met.
3. The SWMP shall address each of the minimum control measures of Part V, Section B and must include measurable goals, including interim milestones, for each BMP, including as appropriate, the months and years in which the MS4 will undertake the required actions and the frequency of the action. The name and title of the person or persons responsible for implementing the SWMP shall also be included.
4. The permittee shall protect water quality by ensuring, to the maximum extent practicable, that no discharge shall cause or contribute to an exceedance of applicable water quality standard. To do so, the permittee shall fully implement all SWMP and permit requirements in accordance with the established time frames.

B. Minimum control measures.

1. Public Education and Outreach on Stormwater Impacts. The permittee or applicant, as applicable, shall:
 - a. Implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impact of stormwater discharges on waterbodies and the steps that the public can take to reduce pollutants in stormwater runoff.;
 - b. Include the following information in the SWMP:
 - i. A description of the education program and outreach activities;
 - ii. A description of the methods for disseminating information;
 - iii. The target audiences and target pollutants and sources that the applicant will address in the program, and how they were selected;
 - iv. An estimation of the number of people with whom the applicant intends to communicate;

- v. A list of measurable goals for the public education and outreach program;
 - vi. Dates, in terms of months and years, by which the permittee will achieve specific measurable goals
 - vii. The name(s) and title(s) of the person(s) responsible for implementing and coordinating the education activities.
2. Public Involvement/Participation. The permittee or applicant, as applicable, shall:
- a. Develop and implement a plan to encourage public involvement and participation in the development and implementation of the SWMP;
 - b. Comply with state and local public notice requirements when implementing the public involvement/participation program.
 - c. Include the following information in the SWMP:
 - i. A description of the general plan for informing the public of involvement and participation opportunities;
 - ii. The types of activities for public involvement that the program will include and the target audiences;
 - iii. A description of the procedure for receiving and reviewing public comments;
 - iv. An explanation of how interested parties may access the SWMP and NOI;
 - v. A list of measurable goals for the public involvement/participation program;
 - vi. Dates, in terms of months and years, by which the permittee will achieve specific measurable goals and;
 - vii. The name(s) and title(s) of the person(s) responsible for implementing and coordinating the public involvement/participation activities.
3. Illicit Discharge Detection and Elimination. The permittee or applicant, as applicable, shall:
- a. Develop, implement, and enforce a program to detect and eliminate illicit discharges into the small MS4, except those discharges listed below:
 - i. Non-stormwater discharges as listed in Part I, Section C.2 ; This exception does not apply to those categories of discharge which the permittee or applicant has determined to be a significant contributor of pollutants to the small MS4; or
 - ii. Occasional incidental non-stormwater discharges (e.g. non-commercial or charity car washes, etc.) that the permittee does not expect (based on information available to the permittee) to be a significant contributor of pollutants to the small MS4 because of either the nature of the discharges or conditions the permittee has established for allowing these discharges to the small MS4 (e.g., a charity car wash with appropriate controls on frequency, proximity to sensitive waterbodies, BMPs on the wash water, etc.).
 - b. Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls;

- c. To the extent allowable under state or local law, effectively prohibit through ordinance or other regulatory mechanism, non-stormwater discharges into the storm sewer system and implement appropriate enforcement procedures and actions;
 - d. Develop and implement a plan to detect, identify the source of, and address non-stormwater discharges, including illegal dumping, to the system;
 - e. Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste;
 - f. Conduct dry weather field screening for non-stormwater flows. The screening must include qualitative field tests based on color, odor, or visually observed characteristics as indicators of discharge sources. If the qualitative field tests do not provide enough information for the permittee to determine the source of the discharge, the permittee must test the discharge, while in the field, for selected chemical parameters. The permittee must investigate the illicit discharge within 15 days of its detection, and must follow up investigation with an action to further study the source of the discharge or eliminate it.
 - g. Include the following information in the SWMP:
 - i. A description of detection methods;
 - ii. A description or citation of the established ordinance or other regulatory mechanism used to prohibit illicit discharges. If the permittee needs to develop this mechanism, describe the plan and a schedule to do so.
 - iii. A description of enforcement policy and jurisdiction;
 - iv. A description of the non-stormwater discharges allowed in the small MS4 pursuant to Part V, Section B.3.a.i;
 - v. A description of the non-stormwater discharges allowed in the small MS4 pursuant to Part V, Section B.3.a.ii;
 - vi. The methods for informing/training employees about illicit discharges;
 - vii. The methods for informing the public of hazards associated with illegal discharges and improper disposal of waste;
 - viii. A list of measurable goals for the illicit detection and elimination program;
 - ix. Dates, in terms of months and years, by which the permittee will achieve specific measurable goals; and
 - x. The name(s) and title(s) of the person(s) responsible for implementing and coordinating illicit discharge detection and elimination activities.
4. Construction Site Stormwater Runoff Control. The permittee or applicant, as applicable, shall:
- a. Develop, implement, and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. If the Department waives requirements for

stormwater discharges associated with small construction activity, defined under 40 CFR 122.26(b)(15)(i), the permittee is not required to develop, implement, and/or enforce a program to reduce pollutant discharges from these sites;

- b. Using an ordinance or other regulatory mechanism available under the legal authorities of the small MS4, require construction site operators to practice erosion and sediment control and require construction site operators to control waste and properly dispose of wastes, such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality. This ordinance must apply, at a minimum, to those sites described in Part V, Section B.4.a.
 - c. Review all site plans for those sites described in Part V, Section B.4.a. for potential water quality impacts, including erosion and sediment control, control of other wastes, and any other impacts that must be examined according to the requirements of the law or ordinance of Part V, Section B.4.b. Before ground is broken at the construction site, the small MS4 operator shall review the plans and, verify (in written communication with the construction site operator) that the BMPs for the site are appropriate;
 - d. Develop and implement procedures for site inspection and enforcement of control measures for those sites described in Part V, Section B.4.a.;
 - e. Include the following information in the SWMP:
 - i. A description or citation of the established ordinance or other regulatory mechanism used to prohibit erosion and ensure proper management of wastes on construction sites per Part V, Section 4.b. If the permittee needs to develop the required regulatory mechanism, describe the plan and a schedule to do so;
 - ii. A description of the sanctions and enforcement mechanism(s) to ensure compliance;
 - iii. A description of the procedures for site inspection and enforcement of control measures, and procedures for site plan reviews;
 - iv. Procedures for receipt, acknowledgment and consideration of information submitted by the public,
 - v. A list of measurable goals for the construction site runoff control program;
 - vi. Dates, in terms of months and years, by which the permittee will achieve specific measurable goals; and
 - vii. The name(s) and title(s) of the person(s) responsible for overseeing construction site runoff control activities.
5. Post-Construction Stormwater Management in New Development and Redevelopment. The permittee or applicant, as applicable, shall:
- a. Develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, and discharge into the small MS4. The program must ensure that controls are in place that would prevent or minimize water quality impacts;

- b. Develop and implement strategies that include a combination of structural and/or non-structural BMPs appropriate for the community;
 - c. Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under the legal authorities of the small MS4;
 - d. Ensure adequate long-term operation and maintenance of BMPs; and
 - e. Include the following information in the SWMP:
 - i. A description of the management practices to reduce post-construction runoff from new development and redevelopment projects within the MS4; address any specific priority areas and tailor to the local community;
 - ii. A description or citation of the established ordinance or other regulatory mechanism used to address post-construction runoff control. If the permittee needs to develop the required regulatory mechanism, describe the plan and a schedule to do so;
 - iii. A description of the procedure to ensure compliance with local requirements;
 - iv. A description of the education program for developers, architects and the public about project designs that minimize water quality impacts;
 - v. An identification of the measurable goals for the post-construction runoff control program;
 - vi. Dates, in terms of months and years, by which the permittee will achieve specific measurable goals; and
 - vii. The name(s) and title(s) of the person(s) responsible for the development, implementation, and enforcement of post-construction stormwater management.
6. Pollution Prevention/Good Housekeeping for Municipal Operations. The permittee or applicant, as applicable, shall:
- a. Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations due to activities, including but not limited to, park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance. The permittee shall address the following topics in the program:
 - i. Maintenance activities, maintenance schedules, and long-term inspection procedures for controls to reduce floatables and other pollutants to the small MS4;
 - ii. Controls to reduce or eliminate the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas, and salt and sand storage locations and snow disposal areas; and
 - iii. Procedures to properly dispose of waste removed from the small MS4 and municipal operations, including dredge spoil, accumulated sediments, floatables, and other debris.

- b. Include the following information in the SWMP:
 - i. A list of the municipal operations impacted by this operation and maintenance program;
 - ii. A description of the training program for municipal employees
 - iii. A list of measurable goals for the municipal pollution prevention program;
 - iv. Dates, in terms of months and years, by which the permittee will achieve specific measurable goals; and
 - v. The name(s) and title(s) of the person(s) responsible for implementing and coordinating employee training and pollution prevention activities.
- C. Qualifying State or Local Program. The permittee may substitute the BMPs and measurable goals of an existing stormwater pollution control program to qualify for compliance with one or more of the minimum control measures if the existing measure meets the requirements of the minimum control measure as established in Part V, Section B.
- D. Sharing Responsibility. Implementation of one or more of the minimum measures may be shared with another entity, or the entity may fully take over the measure. A permittee may rely on another entity only if:
 - 1 The other entity, in fact, implements the control measure;
 - 2. The control measure, or component of that measure, is at least as stringent as the corresponding permit requirement;
 - 3. The other entity agrees to implement the control measure on the permittee's behalf. Written acceptance of this obligation is expected. The permittee shall maintain this obligation as part of the SWMP description. If the other entity agrees to report on the minimum measure, the permittee shall supply the other entity with the reporting requirements in Part V, Section G of this general permit. The permittee remains responsible for compliance with the permit obligations if the other entity fails to implement the control measure component.
- E. Reviewing and Updating SWMPs.
 - 1. The permittee shall annually review the SWMP in conjunction with preparation of the annual report required under Part V, Section G.
 - 2. The permittee may change the SWMP during the life of the permit according to the following procedures:
 - a. Changes adding (but not subtracting) components, controls, or requirements to the SWMP may be made at any time upon written notification to the Department;
 - b. Changes replacing an ineffective or infeasible management practice specifically identified in the SWMP with an alternate management practice may be made at any time, as long as the permittee submits a written analysis to the Department explaining why the management practice is ineffective or infeasible (including cost prohibitive), and why the replacement management practice is expected to achieve the goals of the management practice to be replaced;
 - c. Change notifications must be signed in accordance with Part VI, Section L;

3. The Department may notify a permittee that changes to the SWMP are necessary:
 - a. To address impacts on receiving water quality caused, or contributed to, by discharges from the MS4;
 - b. To include more stringent requirements necessary to comply with new federal or state statutory or regulatory requirements; and
 - c. If, at any time, the Department determines that the SWMP does not meet permit requirements.
4. The notification described above in Part V, Section E.3 will need to be addressed by the permittee in one of the following manners:
 - a. If the Department specifies changes that are to be made to the SWMP (including changes in implementation schedules), the permittee shall, within 60 days (or a later date if provided by the Department) certify that it has made changes as required by the Department. Changes must go into effect 30 days from the date the permittee certifies that changes have been made to the SWMP.
 - b. If the permittee proposes an alternative to the Department's required change (including changes in implementation schedule), the proposed alternative must be received by the Department within 60 days of notification of the required change. If the Department approves the proposed alternative, the changes to the SWMP must go into effect 30 days from the date the Department approved the proposal. If the Department does not approve the proposed alternative, the permittee must make changes to the SWMP as specified by the Department. Certification that changes have been made to the SWMP must be received within 60 days of the date the permittee received notification that the proposal had been rejected. Changes must go into effect 30 days from the date the permittee certifies that changes have been made to the SWMP.
5. Transfer of Ownership, Operational Authority, or Responsibility for SWMP Implementation. The permittee must implement the SWMP in all new areas added to the permittee's portion of the MS4 (or for which the permittee becomes responsible for implementation of stormwater quality controls) as expeditiously as practicable, but not later than one year from addition of the new areas. Implementation may be accomplished in a phased manner to allow additional time for controls that cannot be implemented immediately.
 - a. Within 90 days of a transfer of ownership, operational authority, or responsibility for SWMP implementation, the permittee must have a plan for implementing the SWMP in all affected areas. The plan may include schedules for implementation. Information on all new annexed areas and any resulting updates required to the SWMP must be included in the annual report.
 - b. Only those portions of the SWMP specifically required as permit conditions shall be subject to the modification requirements of 40 CFR 124.5. Addition of components, controls, or requirements by the permittee(s) and replacement of an ineffective or infeasible BMP implementing a required component of the SWMP with an alternate BMP expected to achieve the goals of the original BMP shall be considered minor changes to the SWMP and not modifications to the permit.

F. Monitoring.

1. The permittee must evaluate program compliance, the appropriateness of identified BMPs, and progress toward achieving identified measurable goals. If the permittee discharges to a water for which a TMDL has been established, the permittee must monitor to determine if the stormwater controls are adequate to maintain compliance with the MS4's

wasteload allocation or load allocation. If the permittee discharges to a 303(d) listed water that contains, or may contain, pollutant(s) for which the waterbody is listed, the permittee must monitor to determine if BMPs are effective to control discharges of pollutants of concern.

2. If the permittee conducts analytical monitoring at the permitted small MS4, the permittee must comply with the following:
 - a. *Representative monitoring.* Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
 - b. *Test Procedures.* Monitoring results shall be conducted according to test procedures approved in R18-9-A905(B) or other test procedures mutually agreed upon by the Director and the permittee or applicant.
 - c. *Discharge Monitoring Report.* Monitoring results must be reported on a Discharge Monitoring Report (DMR) when monitoring is performed in accordance with a TMDL requirement.
3. Records of analytical monitoring information shall include:
 - a. The date, exact place, and time of sampling or measurements;
 - b. The names(s) of the individual(s) who performed the sampling or measurements;
 - c. The date(s) analyses were performed;
 - d. The name(s) of the individual(s) who performed the analyses;
 - e. The analytical techniques or methods used; and
 - f. The results of such analyses.
4. Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit is subject to the enforcement actions established under A.R.S. Title 49, Chapter 2, Article 4, which may include the possibility of fines and/or imprisonment.

G. Annual Reports.

1. The permittee must submit annual reports to the Department for each year of the permit term. The first report is due September 30, 2004, covering the activities of the permittee during the period beginning on the effective date of the permit for the permittee and ending June 30, 2004. Subsequent annual reports are due on September 30 of each year following 2004 during the remainder of the term of the permit and must cover the activities of the permittee for the previous year up to and including June 30. The report must include:
 - a. The status of compliance with permit conditions, an assessment of the appropriateness of the identified best management practices, progress towards achieving the statutory goal of reducing the discharge of pollutants to the MEP and protecting water quality, and the measurable goals for each of the minimum control measures,
 - b. Results of information collected and analyzed, if any, during the reporting period, including monitoring data used to assess the success of the program at reducing the discharge of pollutants to the MEP;
 - c. Any changes made to the SWMP since the last annual report and a summary of the

stormwater activities the permittee plans to undertake during the next reporting cycle (including an implementation schedule);

- d. Proposed changes to the stormwater management program, including changes to any BMPs or any identified measurable goals that apply to the program elements;
 - e. A description of BMPs to be implemented within new areas annexed over the past year that are located within the regulated boundaries of the MS4;
 - f. A description and schedule for implementation of additional BMPs that may be necessary, based on monitoring results, to ensure compliance with applicable TMDLs; and
 - g. Notice that the permittee is relying on another government entity to satisfy some of the permit obligations (if applicable).
2. Where to Submit. Annual reports shall be signed in accordance with Part VI, Section L.2 and sent to the Department at the following address:

Arizona Department of Environmental Quality
Compliance Data Unit
1110 West Washington
Phoenix, AZ 85007

PART VI. STANDARD PERMIT CONDITIONS

A. Duty to Comply.

- 1. Failure to comply with any applicable term or condition of this permit shall be a violation of this permit and shall be grounds to enforcement action, permit termination, revocation and reissuance, or modification, or denial of a permit renewal application.
- 2. The issuance of this general permit does not waive any federal, state, county, or local regulations or permit requirements with which a permittee discharging under this general permit is required to comply.

B. Duty to Reapply. If a permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit.

C. Continuation of an Expired General Permit.

- 1. If the Director does not reissue this general permit before the expiration date, the current general permit will be administratively continued and remain in force and effect until the general permit is reissued.
- 2. Any permittee granted general permit coverage before the expiration date automatically remains covered by the continued general permit until the earlier of:
 - a. Reissuance or replacement of the general permit, at which time the permittee shall comply with the NOI conditions of the new general permit to maintain authorization to discharge; or
 - b. The date the permittee has submitted a Notice of Termination; or
 - c. The date the Director has issued an individual permit for the discharge; or
 - d. The date the Director has issued a formal permit decision not to reissue the general permit, at which time the permittee shall seek coverage under an alternative general permit or an individual permit.

3. Upon reissuance of a new general permit, the permittee shall file an NOI, within 60 days of the effective date of the new general permit.
- D. Need to Halt or Reduce an Activity Is Not a Defense. It is not a defense for a permittee in an enforcement action to plead that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this general permit.
- E. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this general permit that has a reasonable likelihood of adversely affecting human health or the environment.
- F. Proper operation and maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the conditions of the permittee's SWMP. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
- G. Permit actions.
 1. This general permit may be reopened (in accordance with A.A.C. R18-9-A905(3)(a) which incorporates 40 CFR 122.41(f)) to address any changes in state or federal plans, policies, or regulations that would affect the quality requirements for the discharge.
 2. This general permit may be modified by the Director before the expiration date to include discharge or receiving water limitations for toxic constituents determined to be present in significant amounts in the discharge.
 3. This general permit may be modified, revoked and reissued, or terminated for cause.
 4. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.
- H. Property Rights. The issuance of this general permit does not convey any property rights or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, Indian tribe, or local laws or regulations.
- I. Duty to Provide Information. The permittee must promptly furnish the Department with the following information:
 1. Upon request, any information that the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this general permit, or to determine compliance with this general permit.
 2. Upon request, copies of records required by this general permit.
 3. In the event that the permittee becomes aware that the permittee failed to submit any relevant facts in the NOI or submitted incorrect information in the NOI or in any other report to the Department, such facts or information.
- J. Inspection and Entry. The permittee shall allow the Director or the Director's designee, upon presentation of credentials and other documents as required by law, to:
 1. Enter the permittee's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this general permit;

2. Have access to and copy, at reasonable times, any records required by this general permit;
3. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this general permit; and
4. Sample or monitor, at reasonable times, to assure permit compliance or as otherwise authorized under A.R.S. Title 49, Chapter 2, Article 3.1, and A.A.C. Title 18, Chapter 9, Articles 9 and 10, any substances or parameters at any location.

K. Recordkeeping.

1. The permittee shall retain records of all monitoring information, including, all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, copies of Discharge Monitoring Reports (DMRs), a copy of the NPDES or AZPDES permit, and records of all data used to complete the application (NOI) for this permit, for a period of at least three years from the date of the sample, measurement, report or application, or for the term of this permit, whichever is longer. This period may be extended at the request of the Department at any time.
2. The permittee shall submit its records to the Department only when specifically asked to do so. The permittee must retain the SWMP required by this permit (including a copy of the permit language) at a location accessible to the Department. The permittee must make its records, including the notice of intent (NOI) and the SWMP, available to the public.

L. Signatory Requirements. All NOIs, NOTs, reports required by the general permit, and other information requested by the Director shall be signed as follows:

1. NOIs and NOTs:
 - a. For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official.
2. Reports and other information.
 - a. All reports required by this general permit and other information requested by the Department or authorized representative of the Department shall be signed by a person described in Part VI, Section L.1 or by a duly authorized representative of that person.
 - b. A person is a duly authorized representative only if the authorization is made in writing by a person described in Part VI, Section L.1. The authorization shall specify either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the permittee.
3. Changes to Authorization. If the information on the NOI filed for general permit coverage is no longer accurate because a different operator has responsibility for the overall operation of the facility, a new authorization satisfying the requirement of Part VI, Section L.2.b. above must be submitted to the Department prior to or together with any reports, information, or notices of intent to be signed by an authorized representative.
4. Certification. Any person (as defined above in Part VI, Sections L.2.a and L.2.b) signing documents under this Section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure

that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

M. Reporting.

1. Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.
2. Transfers. This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate other requirements that may be necessary to comply with the permit. (In some cases, modification or revocation and reissuance is mandatory.)
3. Other information. When the permittee becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the NOI or in any other report to the Director, the permittee shall promptly submit the facts or information.

N. Severability. The provisions of this general permit are severable, and if any provision of this general permit, or the application of any provision of this general permit to any circumstance, is held invalid, the application of the provision to other circumstances, and the remainder of this general permit shall not be affected.

O. Requiring Coverage Under an Individual Permit.

1. The Director may require a person authorized by a general permit to apply for and obtain an individual permit for any of the following cases:
 - a. A change occurs in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source;
 - b. Effluent limitation guidelines are promulgated for point sources covered by the general permit;
 - c. An Arizona Water Quality Management Plan containing requirements applicable to the point sources is approved;
 - d. Circumstances change after the time of the request to be covered so that the discharger is no longer appropriately controlled under the general permit, or either a temporary or permanent reduction or elimination of the authorized discharge is necessary;
 - e. If the Director determines that the discharge is a significant contributor of pollutants. When making this determination, the Director shall consider:
 - i. The location of the discharge with respect to waters of the United States,
 - ii. The size of the discharge,
 - iii. The quantity and nature of the pollutants discharged to waters of the United States, and
 - iv. Any other relevant factor.

2. If an individual permit is required, the Director shall notify the discharger in writing of the decision. The notice shall include:
 - a. A brief statement of the reasons for the decision,
 - b. An application form,
 - c. A statement setting a deadline to file the application,
 - d. A statement that on the effective date of issuance or denial of the individual permit, coverage under the general permit will automatically terminate,
 - e. The applicant's right to appeal the individual permit requirement with the Water Quality Appeals Board under A.R.S. § 49-323, the number of days the applicant has to file a protest challenging the individual permit requirement, and the name and telephone number of the Department contact person who can answer questions regarding the appeals process; and
 - f. The applicant's right to request an informal settlement conference under A.R.S. §§ 41-1092.03(A) and 41-1092.06.
3. The discharger shall apply for an individual permit within 90 days of receipt of the notice, unless the Director grants a later date. In no case shall the deadline be more than 180 days after the date of the notice.
4. If the permittee fails to submit the individual permit application within the time period established in Part V, Section Q.3, the applicability of the general permit to the permittee is automatically terminated at the end of the day specified by the Director for application submittal.
5. Coverage under the general permit shall continue until an individual permit is issued unless the general permit coverage is terminated under Part V, Section Q.4.

P. Request For an Individual Permit.

1. An owner or operator authorized by a general permit may request an exclusion from coverage of a general permit by applying for an individual permit.
 - a. The owner or operator shall submit an individual permit application under R18-9-B901(B) and include the reasons supporting the request no later than March 10, 2003.
 - b. The Director shall grant the request if the reasons cited by the owner or operator are adequate to support the request.
2. If an individual permit is issued to an owner or operator otherwise subject to a general permit, the applicability of the general permit to the discharge is automatically terminated on the effective date of the individual permit.

Q. Other Environmental Laws. No condition of this general permit releases the permittee from any responsibility or requirements under other environmental statutes or regulations. For example, this permit does not authorize the "take" of endangered or threatened species as prohibited by section 9 of the Endangered Species Act, 16 U.S.C. 1538. Information regarding the location of endangered and threatened species and guidance on what activities constitute a "take" are available from the U.S. Fish and Wildlife Service.

PART VII. PENALTIES FOR VIOLATIONS OF PERMIT CONDITIONS

Any permit noncompliance constitutes a violation and is grounds for an enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application.

- A. Civil Penalties. A.R.S. § 49-262(C) provides that any person who violates any provision of A.R.S. Title 49, Chapter 2, Article 2, 3 or 3.1 or a rule, permit, discharge limitation or order issued or adopted under A.R.S. Title 49, Chapter 2, Article 3.1 is subject to a civil penalty not to exceed \$25,000 per day per violation.
- B. Criminal Penalties. Any a person who violates a condition of this general permit, or violates a provision under A.R.S. Title 49, Chapter 2, Article 3.1, or A.A.C. Title 18, Chapter 2, Articles 9 and 10 is subject to the enforcement actions established under A.R.S. Title 49, Chapter 2, Article 4, which may include the possibility of fines and/or imprisonment.

PART VIII. DEFINITIONS

In addition to the definitions contained in A.R.S. 49-255 and A.A.C. R18-9-A901, all definitions contained in section 502 of the Act and 40 CFR 122 shall apply to this permit and are incorporated herein by reference. For convenience, simplified explanations of some regulatory/statutory definitions have been provided, but in the event of a conflict, the definition found in the statute or regulation takes precedence.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Control Measure as used in this permit, refers to any Best Management Practice or other method used to prevent or reduce the discharge of pollutants to waters of the United States.

CWA means the Clean Water Act or the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq.

Department as used in this permit, means the Arizona Department of Environmental Quality.

Discharge when used without qualification means the discharge of a pollutant,

Discharge of a Pollutant means

1. Any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source," or
2. Any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a state, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any "indirect discharger."

Discharge-related activities include: activities which cause, contribute to, or result in stormwater point source pollutant discharges; and measures to control stormwater discharges, including the siting, construction and operation of best management practices (BMPs) to control, reduce or prevent stormwater pollution.

Facility means any NPDES or AZPDES point source or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the NPDES or AZPDES program.

Illicit connection means any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.

Illicit discharge means any discharge to a municipal separate storm sewer that is not composed entirely of stormwater except discharges pursuant to a NPDES or AZPDES permit (other than the NPDES or AZPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities,

Indian country means:

1. All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation;
2. All dependent Indian communities within the borders of the United States whether within the originally or subsequently acquired territory thereof, and whether within or without the limits of a state; and
3. All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same. This definition includes all land held in trust for an Indian tribe.

Large or Medium Municipal Separate Storm Sewer System means all municipal separate storm sewers as defined at 40 CFR 122.26(b)(4) or (7)

MEP means maximum extent practicable, the technology-based discharge standard for municipal separate storm sewer systems to reduce pollutants in stormwater discharges. A discussion of MEP as it applies to small MS4s is found at 40 CFR 122.34. CWA section 402(p)(3)(B)(iii) requires that a municipal permit shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system design, and engineering methods, and other provisions that the state determines appropriate for the control of such pollutants.

Measurable goal means a quantitative measure of progress in implementing a component of a stormwater management program.

MS4 means municipal separate storm sewer system.

Municipal separate storm sewer means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, and storm drains):

1. Owned or operated by a state, city, town, county, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or a designated and approved management agency under section 208 of the Clean Water Act (33 U.S.C. 1288) that discharges to waters of the United States;
2. Designed or used for collecting or conveying stormwater;
3. That is not a combined sewer; and
4. That is not part of a publicly owned treatment works.

NOI means Notice of Intent to be covered by this permit (see Part II).

NOT means Notice of Termination.

Outfall means a point source as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States,

Owner or operator means the owner or operator of any facility or activity subject to regulation under the NPDES program.

Point source means any discernible, confined, and discrete conveyance, including but not limited to,

any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

Pollutant is defined at R18-9-A901(22). A partial listing from this definition includes: dredged spoil, solid waste, sewage, garbage, sewage sludge, chemical wastes, biological materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial or municipal waste.

Significant contributors of pollutants means any discharge that causes or could cause or contribute to a violation of surface water quality standards.

Small Municipal Separate Storm Sewer System all separate storm sewers that are:

- 1 Owned or operated by the United States, a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;
- 2 Not defined as large or medium municipal separate storm sewer systems in accordance with this permit;
- 3 This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

Stormwater means stormwater runoff, snow melt runoff, and surface runoff and drainage.

Stormwater Management Program (SWMP) means a comprehensive program to manage the quality of stormwater discharged from the municipal separate storm sewer system.

Waters of the United States which is interchangeable with the term “navigable waters” means:

1. All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters, including interstate wetlands;
3. All other waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
 - a. Which are or could be used by interstate or foreign travelers for recreational or other purposes;
 - b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - c. Which are used or could be used for industrial purposes by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the United States under this definition;
5. Tributaries of waters identified in paragraphs (1) through (4) of this definition;
6. The territorial sea; and
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs 1. through 6. of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds for steam electric generation stations per 40 CFR 423, which also meet the criteria of this definition) are not waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the

purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

Appendix E
City of Prescott Storm Water Management
Program (May 2006)



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PART I - CITY BACKGROUND



CITY OF PRESCOTT

REGULATORY PROGRAM INFORMATION

Phase I of the U.S. Environmental Protection Agency's (EPA) municipal stormwater program was promulgated in 1990 under the authority of the Clean Water Act (CWA). Phase I relied on the National Pollutant Discharge Elimination System (NPDES) permit coverage to address stormwater runoff from medium and large municipal separate storm sewer systems (MS4s), serving populations of 100,000 or greater.

The Stormwater Phase II Final Rule (promulgated December 8, 1999) was the next step in the EPA's efforts to preserve, protect, and improve the nation's water resources from polluted stormwater runoff. The Phase II program requires additional operators (small MS4s in urbanized areas) to implement programs and practices to control polluted stormwater runoff, through the NPDES permit program. Recently, the State of Arizona has received primacy for the federal NPDES program and is charged with implementing the program, now called AZPDES. The program requires Phase II municipalities to develop a Stormwater Management Program/Plan (SWMP). The draft AZPDES permit is attached Appendix 1.

SETTING

The City of Prescott was incorporated in 1883 and the Prescott City Charter was adopted as the "constitution" in 1958. Prescott covers 38.4 square miles in the mountains of north central Arizona, approximately 96 miles north of Phoenix. Prescott, the county seat of Yavapai County, is located near the towns of Chino Valley and Prescott Valley that taken together are locally referred to as the Tri-City area. The City is located at Latitude N34° 32' 23.9" and Longitude W112° 28' 4.3" and is approximately 5,400 feet above sea level. The local climate is mild with an average summer temperature of 80°F and an average winter temperature of 57°F. Annual precipitation averages approximately 19 inches per year, 11 inches per year as snowfall. The City of Prescott has experienced steady growth over the past few decades, increasing from 16,888 in 1975 to 33,938 in 2001 (883 people per square mile). (Prescott AZ Urbanized Area graphic can be found following Part I.)

The City has approximately 400 miles of streets and storm sewers. Runoff management, as well as street maintenance, is handled by the Department of Public Works, Streets Division.

The City is located within the Yavapai County Flood Control District (YCFD). A subdistrict of YCFD has not been specifically designated for the City of Prescott.

The City discharges directly to Granite Creek (from its headwaters to Willow Creek) and Watson Lake. Both water bodies are included on the 2004 Impaired Waters List. The SWMP will include information describing how the program will control the discharge of the listed pollutants for each, dissolved oxygen for Granite Creek, and nitrogen, dissolved oxygen and pH for Watson Lake. The City will ensure to the



maximum extent practicable that discharges from the MS4 will not cause or contribute to exceedances of surface water quality standards.

The Hassayampa River is within 10 miles of the City, but the MS4 does not discharge into this impaired reach.

ORGANIZATION

The City functions as a chartered home-rule city, operated by a City Council/City Manager. The City Charter, developed by citizens, acts as the "constitution" that describes Prescott's governmental organization and authority. Elected officials include a Mayor and seven at-large City Council Members.

ORDINANCES AND GUIDANCE

City of Prescott ordinances and guidance that may be affected by the SWMP are:

- The Floodplain Regulations. These regulations are set forth in Title XIII of the Prescott City Code; are up to date and in compliance with requirements of the National Flood Insurance Program and Arizona Department of Emergency Services.

The City has further adopted its "Drainage Criteria Manual" (Arroyo Engineering, Tucson, AZ 1996) and is setting forth requirements for preparation of required hydrologic, hydraulic, and drainage related reports.

LEGAL AUTHORITY

Prescott will manage stormwater runoff either through the use of existing city departments, or possibly through the enactment of an ordinance to authorize a stormwater utility. A stormwater utility will be evaluated as a part of this SWMP. The ordinances and guidance listed above may also need revision to address elements of the SWMP.

INSPECTION/ENFORCEMENT

The City has a Building Code and conducts building inspections through the Building Inspection Services Department. There is also a Code Enforcement Officer in the Community Development Department, Street and Drainage Division. Engineering personnel inspect private and public construction of municipal structures. The Streets Division also responds to spills of hazardous materials. If a responsible party does not respond and clean up a spill, the Fire Marshal investigates and enforces cases of illegal dumping and illicit discharges.

INFRASTRUCTURE/MUNICIPAL OPERATIONS

The Public Works Department and Engineering Services Department are responsible for the maintenance, design, and construction of streets and drainage facilities and infrastructure. Divisions within the Department are responsible for various aspects of construction, inspection, and maintenance. The Streets Division handles runoff management, street drainage system maintenance, and street maintenance. The City will be mapping the existing drainage system in a GIS (ArcView, ArcInfo) format as a part of this plan. The Department of Environmental Services, Sanitary

STORMWATER MANAGEMENT PLAN



Sewer Division, maintains the sanitary sewer system. The divisions are located at the Prescott Engineering Building at 433 N. Virginia Street, Prescott, Arizona 86301.

CONSTRUCTION AND DEVELOPMENT

The City Council and Planning and Zoning Commission regulate development. The Community Development Department receives and administers development projects. Engineering reviews and field construction inspections are performed by the Engineering Services Department.

PROGRAM FUNDING

The City may develop a Stormwater Utility to fund, in part, stormwater quality and drainage management programs.

OUTREACH/TRAINING

The City of Prescott has a Public Communications Office. This office provides public outreach and education to residents on a variety of subjects using numerous methods, including the quarterly citizen guide "Quality Times." The community organization "Keep Prescott Beautiful" assists the City with litter control and beautification projects that involve the community.

CONTACT RESPONSIBLE FOR IMPLEMENTING MINIMUM CONTROL MEASURES

The City has determined that one coordinator will oversee the implementation of all stormwater minimum control measures. Once a comment is received, a report will be initiated which lists the callers information; the type of concern; the investigation of the concern; any action taken; any corrective measure(s) required; and any reporting back to the caller that is done. Contact information for the coordinator is:

Title:	Coordinator for all Control Measures
Contact:	Dale Wachs
Division:	Engineering Services
Phone:	(928) 777-1130



PART II - MINIMUM CONTROL MEASURES



1. PUBLIC EDUCATION AND OUTREACH

1.1 EPA Fact Sheet Program Requirement

Distributing educational materials and performing outreach to inform citizens about the impacts polluted stormwater runoff discharges can have on water quality.

1.2 Current Programs

The City of Prescott currently provides public education on City services and maintains several outreach programs to coordinate and distribute information to the local community.

The Public Communications Division provides two-way communications between the public and City programs and services. The mission is to foster citizen understanding, support, and involvement in municipal government activities. They sponsor, host, and participate in community-building and image-building events such as the annual City Fair, major capital project groundbreakings, grand openings, and other activities. The Communications office is responsible for accurate, timely, and, when possible, direct communications about City services, projects, and programs and maintains a variety of information tools such as the City website, the 24-hour hot line, fax and e-mail networks, television, radio, and the print media. The Public Communications Division will be available as the cornerstone for dispersal of educational materials for the SWMP and will coordinate the public outreach notification.

The Prescott ConneXion is a combined library and city service center located at the Prescott Gateway Mall. The ConneXion is a city stop that contains information about the region and provides opportunity to check out or reserve a book, read a magazine, or surf the web on one of six public internet terminals. The ConneXion features a children's area and a private meeting room. The Prescott ConneXion may be incorporated as a common location for SWMP literature.

Information workshops are designed to provide citizens with the facts about complex City issues through a question and answer session with those that are involved in the process. An information workshop may be organized to inform concerned citizens about the SWMP.

The *Quality Time* is a quarterly Parks, Recreation and Library Guide that informs citizens about Youth Center activities, Adult Center Activities and other sports and recreation activities and has a strong focus toward children's events and education.



The *Prescott Neighborhood Resource Guide* is a broad informational source that provides citizens with comprehensive information about Prescott government, programs, events, and community.

The *Annual Water Quality Report* contains information about the sources of the City's drinking water, general water quality, and the results of analytical tests conducted on water supply.

1.3 Selected Best Management Practices (BMPs) for Public Education and Outreach

The public should be informed about the SWMP. No minority populations were considered in the planning process for public education and outreach as more than 50 percent of the population speaks English.

1.3.1 BMP 1-1: Explore Partnership Opportunities

The City of Prescott will research opportunities to partner with other governmental entities, and non-governmental organizations, to pursue cost-effective implementation mechanisms to fulfill minimum control measure requirements. Existing programs will be carefully evaluated to maximize the potential for integration of implementation.

1.3.1.1 Measurable Goals

The measurable goal for implementation of BMP 1-1 is to compile a directory of departmental resources, entities, and non-governmental organizations available to participate in the SWMP with consideration for their staffing and budgetary constraints.

1.3.1.2 Implementation Schedule

PROGRAM	BMP 1-1	MEASURABLE GOALS	DATE DUE
1. Public Education and Outreach	Partnership Opportunities	Compile a list of governmental agencies and Non-governmental Organizations for potential partnership opportunities.	August 2003
		Contact representative individuals for interest in participation.	August 2003
		Implementation Complete.	March 2004



1.3.2 BMP 1-2: Utility Bill Inserts

Prescott will develop an informational piece which describes stormwater quality and drainage issues which affect area residents and what they can do to help address these issues. This information piece will be distributed as an insert in city water bills.

1.3.2.1 Measurable Goals

The measurable goal for implementation of BMP 1-2 is to develop and distribute the stormwater information piece to area residents in Permit Year 1. This information piece will be sent to 15,100 members of the general public, and will be available at City facilities and selected businesses for consumer information.

1.3.2.2 Implementation Schedule

PROGRAM	BMP 1-2	MEASURABLE GOALS	DATE DUE
1. Public Education and Outreach	Utility Bill Inserts	Develop informational piece.	March 2004
		Distribute informational piece.	March 2004
		Implementation Complete.	March 2004

1.3.3 BMP 1-3: Municipal Website Stormwater Information

The City of Prescott will use the municipal website to inform the public about the SWMP. It will include general stormwater information, as well as topics of interest to the general public such as litter control, and proper management of pesticides, fertilizers, used oil, and household hazardous waste.

1.3.3.1 Measurable Goals

The measurable goal for implementation of BMP 1-3 is to update the website with a stormwater message in Permit Year 2.



1.3.3.2 Implementation Schedule

PROGRAM	BMP 1-3	MEASURABLE GOALS	DATE DUE
1. Public Education and Outreach	Municipal Website Stormwater Information	Update website with stormwater management information.	March 2005
		Implementation Complete.	March 2005

1.3.4 BMP 1-4: Design & Implement Outreach to Homeowners Campaign

The City of Prescott has identified residential homeowners as a target group for educational outreach and implementation of this SWMP. This BMP will inform residential homeowners and citizens of Prescott of ways they can reduce pollution and improve the quality of area waters. It will be integrated into existing activities by utilizing the *City Page* monthly newsletter that is distributed every month with the water utility bill.

1.3.4.1 Measurable Goals

The measurable goal for implementation of BMP 1-4 is to generate educational information about the SWMP and publish it quarterly within the *Quality Times* quarterly guide. This newsletter will reach 100 percent of the population receiving utility bills. A schedule of topics will be generated to address relevant issues within the community (i.e., proper disposal of household hazardous wastes, pet waste management, trash management, etc.). Development and implementation will be according to the following schedule.



1.3.4.2 Implementation Schedule

PROGRAM	BMP 1-4	MEASURABLE GOALS	DATE DUE
1. Public Education and Outreach	Outreach to Homeowners Campaign	Develop a schedule of relevant topics for quarterly newsletter through Year 2.	March 2004
		Generate and distribute information in the <i>Quality Times</i> on a quarterly basis.	June, September, and December 2004 Each March, June and September 2005-2007 and by December 19, 2007
		Redesign the schedule of topics on an annual basis to ensure that current/relevant issues are communicated to homeowners.	Each January 2005-2006
		Implementation Complete.	December 19, 2007

1.3.5 BMP 1-5: Design & Implement Outreach to Businesses Campaign

The City of Prescott has identified commercial businesses as a target group for educational outreach and implementation of this SWMP. This BMP will inform business operators of Prescott of ways they can reduce pollution and improve the quality of area waters by modifying their actions.

1.3.5.1 Measurable Goals

The measurable goal for implementation of BMP 1-5 is to identify subsets of the commercial business sector and provide educational literature and a series of industry specific posters to local businesses. Target sectors will be mailed 1,000 brochures and 4,000 brochures and posters will be available for distribution at selected City facilities. The City will contact 100 percent of industries in the service sector. Development and implementation will be according to the schedule below.



1.3.5.2 Schedule

PROGRAM	BMP 1-5	MEASURABLE GOALS	DATE DUE
1. Public Education and Outreach	Outreach to Businesses Campaign.	Target Business sector for Year 2 (i.e. auto repair garages, car washes).	January 2004
		Develop and distribute campaign literature and posters to target sector (i.e. dry-cleaners, hazardous waste disposal); Determine Target Sector for Year 3.	August 2006
		Develop and distribute campaign literature and posters to target sector (i.e. printers/copiers, restaurants); Determine Target Sector for Year 4.	August 2006
		Develop and distribute campaign literature and posters to target sector (i.e. landscaping/fertilizers construction); Determine Target Sector for Year 5.	January 2007
		Implementation Complete.	December 19, 2007



2. PUBLIC INVOLVEMENT IN SWMP DEVELOPMENT

2.1 EPA Fact Sheet Program Requirement

Providing opportunities for citizens to participate in program development and implementation, including effectively publicizing public hearings and/or encouraging citizen representatives on a stormwater management panel.

2.2 Current Programs

Prescott's City Council convenes the first four Tuesdays of each month, at 3 p.m. in the City Hall Council Chambers, 201 S. Cortez Street, to study agenda issues and take action on items such as: informational workshops; allocation of funds; award of bids, contracts, leases and agreements; public hearings on budget, improvement districts, bond expenditures; planning and zoning cases; special use permits; approval of minutes; appointment of board and commission members; various public hearings; and the calling of executive sessions. Agenda, schedules are available at the City Clerk's Office at 777-1272. City Council agendas are also available on-line (www.cityofprescott.net) and at Prescott City Hall.

The City Council meetings are also televised on Prescott Community Access Channel 13. The access channel is available to cable television subscribers. Program schedules are published in the local daily newspaper or by calling 445-0909.

Citizens can get involved in the community and participate on one or more of the numerous boards, commissions and committees that exist in Prescott. These groups have been created to advise City Council on policy issues, satisfy state and federal laws, focus the expertise of citizens who might not otherwise participate in local government, and encourage the governmental process to be more responsive to the community needs.

Volunteer Services provides opportunities for citizens to participate in the specific areas of City government in which they have an interest. Volunteers are often matched with a division that can utilize their prior experience, and enables the volunteers to expand their horizons. Volunteer Services also recognizes and honors volunteers for their efforts on behalf of the City.

The Solid Waste Department helps organize neighborhood activities and may provide opportunity to coordinate stormwater management activities or distribute educational materials.



Keep Prescott Beautiful (KPB) is a local affiliate of both Keep America Beautiful and Arizona Clean and Beautiful maintained by the Solid Waste Department. KPB is a standing committee of the Prescott City Council. Committee members meet monthly and engage in a variety of anti-litter and beautification projects, including creation of a low-water-use plants demonstration garden at the City of Prescott Solid Waste Transfer Station. The committee administers an Adopt-A-Street litter control program for the city and organizes the annual Granite Creek Cleanup in late April. Volunteers are encouraged to participate in this program.

2.3 Selected BMPs for Public Involvement

The Arizona Department of Environmental Quality (ADEQ) requires public participation/involvement as one of the six minimum control measures for effective implementation of the Phase II stormwater regulations. Citizen participation in stormwater management planning would allow for broader public support, shorter implementation schedules, and utilization of free expertise and intellectual resources of the community. Public participation and involvement in stormwater planning is, therefore, an essential element of the Phase II requirements and Prescott will implement the following four BMPs that meet or exceed the minimum control measure for Public Participation/Involvement. In addition, Prescott will review the EPA's menu of BMPs (Appendix 2) and other sources of information to select and implement BMPs for Public Participation/Involvement that best meet the needs of Prescott.

2.3.1 BMP 2-1: Comply with State and Local Public Notice Requirements

Prescott will comply with state and local public notice requirements when implementing a public involvement/participation program as outlined in the AZPDES General Permit.

2.3.1.1 Measurable Goals

The measurable goal for implementation of BMP 2-1 is to provide state and local required public notice in the process of implementing a public involvement/participation program. Implementation will be according to the following schedule.



2.3.1.2 Implementation Schedule

PROGRAM	BMP 2-1	MEASURABLE GOALS	DATE DUE
2. Public Involvement	Implement Public Notice	Draft Public Notice.	March 2004
		Hold Public Meetings.	March 2004
		Implementation Complete.	March 2004

2.3.2 BMP 2-2: Establish the AZPDES SWMP Steering Committee

The City of Prescott will form an advisory committee as part of this SWMP. This Steering Committee will represent different segments of the community that will be affected by implementation of the Prescott SWMP. The committee will ensure that the SWMP complies with the rules and regulation of the AZPDES program, and will review the feasibility of forming a stormwater utility and offer recommendations to facilitate implementation of the SWMP. The committee will be informed periodically on ongoing implementation of the SWMP.

2.3.2.1 Measurable Goals

The measurable goal for implementation of BMP 2-2 is to establish an AZPDES Steering Committee comprised of key individuals from representative sectors of the City of Prescott Infrastructure, Commercial Development, Residential Homeowners Associations, minority groups, and any other interested parties.

2.3.2.2 Implementation Schedule

PROGRAM	BMP 2-2	MEASURABLE GOALS	DATE DUE
2. Public Involvement	Establish the AZPDES SWMP Steering Committee.	Form Advisory Committee.	March 2004
		Continue updating Committee on SWMP implementation.	January & August 2004-2007
		Implementation Complete.	March 2007



2.3.3 BMP 2-3: Public Meeting

Following review and comment of this SWMP by the AZPDES Steering Committee, the City of Prescott will hold a Public Meeting to present the plans to the public.

2.3.3.1 Measurable Goals

The measurable goal for implementation of BMP 2-3 is to hold a Public Meeting in Permit Year 1. Implementation will be according to the schedule below.

2.3.3.2 Implementation Schedule

PROGRAM	BMP 2-3	MEASURABLE GOALS	DATE DUE
2. Public Involvement	Hold a Public Meeting	Notify of the SWMP Public Meeting.	October 2003
		Hold Public Meeting.	March 2004
		Implementation Complete.	March 2004

2.3.4 BMP 2-4: Stormwater Quality Volunteer Opportunities

The City of Prescott will identify suitable opportunities for area volunteers to participate in stormwater quality activities and will develop support materials and provide them to interested parties. These volunteer opportunities will include such things as storm drain stenciling, volunteer monitoring, planting campaigns, and Adopt-a-Stream programs.

2.3.4.1 Measurable Goals

The measurable goal for implementation of BMP 2-4 is to coordinate the opportunities and provide support materials to interested volunteers. The City will develop partnerships with several existing organizations including: the Master Watershed Stewardship (MWS) program at the University of Arizona Cooperative Extension which provides training and opportunities for volunteers within local watersheds; and the Prescott Creeks Preservation Association (PCA) who have programs for volunteers participation in protecting, restoring, and monitoring the Granite Creek Basin. Volunteer activities will occur annually and documentation of volunteers involved and activities performed will be maintained. Targeted groups will be of all ages and will include schools, homeowners associations, and neighborhoods.



2.3.4.2 Implementation Schedule

PROGRAM	BMP 2-4	MEASURABLE GOALS	DATE DUE
2. Public Involvement	Provide Volunteer Opportunities	Form a Volunteer Committee to select and direct community volunteers.	March 2004
		Provide support materials to interested parties.	March 2005
		Encourage ongoing volunteer activities.	Years 2-5
		Implementation Complete.	December 19, 2007

2.3.5 BMP 2-5: Procedure for Receiving and Reviewing Public Comments

The City of Prescott will designate a contact for receiving and reviewing public comments as part of this SWMP.

2.3.5.1 Measurable Goals

The measurable goal for implementation of BMP 2-5 is to designate a contact person for public comments. Once a comment is received, a report will be initiated which lists the callers information; the type of concern; the investigation of the concern; any action taken; any corrective measure(s) required; and any reporting back to the caller that is done. Contact information for public comments is:

Mr. Bob Faxon
City of Prescott Stormwater Supervisor
(928) 777-1126

2.3.5.2 Implementation Schedule

PROGRAM	BMP 2-5	MEASURABLE GOALS	DATE DUE
2. Public Involvement	Establish the Procedure for Receiving and Reviewing Public Comments.	Determine who will receive public comments and the procedure for review	May 2006
		Implementation Complete.	May 2006



2.3.6 BMP 2-6: Provide Access for Interested Parties to the SWMP and NOI

The City of Prescott will designate locations for interested parties to review the current SWMP and NOI.

2.3.6.1 Measurable Goals

The measurable goal for implementation of BMP 2-6 is to provide a location online for access to the City's SWMP and NOI, as well as in packets containing the Arizona Permit (AZG2002-002), Prescott's SWMP and NOI available at City Hall, Engineering Services, the Public Library, and City Streets facility.

2.3.6.2 Implementation Schedule

PROGRAM	BMP 2-6	MEASURABLE GOALS	DATE DUE
2. Public Involvement	Provide Access for Interested Parties to the SWMP and NOI	Post the SWMP and NOI on the City website for review.	May 2006
		Create Packets (containing the ADEQ Permit, Prescott's SWMP and NOI) and make them available to the public.	June 2006
		Implementation Complete.	June 2006



3. ILLICIT DISCHARGE DETECTION AND ELIMINATION

3.1 EPA Fact Sheet Program Requirement

Developing and implementing a plan to detect and eliminate illicit discharges to the storm sewer system (includes developing a system map and informing the community about hazards associated with illegal discharges and improper disposal of waste).

3.2 Current Programs

The Streets Division is responsible for the day-to-day maintenance of some 400 lane-miles of paved streets and the various drainage structures and bridges around the City. This includes patching and crack sealing, minor repairs, street sweeping, snow removal, street striping, curb and gutter and valley gutter repair, drainage-way maintenance, dirt street grading, sign maintenance, and support to other departments as necessary.

Geographical Information System (GIS) operation and maintenance is part of the Information Technology Division (IT). The Division maintains all applicable spatial information and mapping for those City operations that require such data, including Global Positioning Systems (GPS) and other existing or planned GEO-based systems, and manages the data warehouse of this information. Future mapping of Prescott's stormwater system and receiving waters will be coordinated by the Public Works Department.

3.3 Selected BMPs for Illicit Discharge Detection and Elimination

Prescott will implement the following four BMPs to meet the regulatory requirements, and minimum control measures, for illicit discharge detection and elimination outlined in 3.1 above. In addition to implementation of these BMPs, the City will review the EPA's menu of BMPs for illicit discharge detection and elimination (Appendix 2) and other sources of information to select and implement BMPs for illicit discharge detection and elimination that are most applicable to Prescott.

3.3.1 BMP 3-1: Storm Sewer Map

The City of Prescott will develop a GIS- or CAD-based storm sewer system map, showing the location of all outfalls and the names and locations of all waters of the United States that receive discharges from those outfalls.



3.3.1.1 Measurable Goals

The measurable goal for implementation of BMP 3-1 is to map 25 percent of the drainage system each year in the first four years of the permit. Development and implementation will be according to the schedule below.

3.3.1.2 Implementation Schedule

PROGRAM	BMP 3-1	MEASURABLE GOALS	DATE DUE
3. Illicit Discharge Detection and Elimination	Map Storm Sewer System	Map 25 percent of the drainage system.	March 2004
		Map 25 percent of the drainage system.	March 2005
		Map 25 percent of the drainage system.	March 2006
		Map 25 percent of the drainage system.	March 2007
		Implementation Complete.	March 2007

3.3.2 BMP 3-2: Illicit Discharge Ordinance

The City of Prescott will develop an ordinance (or other regulatory mechanism) to prohibit non-stormwater discharges into the storm sewer system and implement appropriate enforcement procedures and actions (Appendix 3 – Example Ordinances).

3.3.2.1 Measurable Goals

The measurable goal for implementation of this BMP is to develop a draft ordinance in Year 1 of the permit period, and finalize and implement the ordinance in Year 2 of the permit period.



3.3.2.2 Implementation Schedule

PROGRAM	BMP 3-2	MEASURABLE GOALS	DATE DUE
3. Illicit Discharge Detection and Elimination	Ordinance for Illicit Discharge Detection and Elimination	Develop a draft ordinance.	March 2006
		Finalize & Implement ordinance.	July 2006
		Implementation Complete.	September 2006

3.3.3 BMP 3-3: Program to Detect and Address Illicit Discharges

The City of Prescott will develop a program to detect and address non-stormwater discharges, including illegal dumping into the storm sewer system. The City of Prescott will evaluate existing programs and identify additional program requirements and resource needs.

3.3.3.1 Measurable Goals

The measurable goal for implementation of BMP 3-3 is to evaluate the existing program and identify additional program requirements and resource and training needs in Year 1. Additional resources and training will be acquired in Year 2. The program implementation will begin in Year 3. Program implementation will involve, at a minimum, annual dry weather field screening for non-stormwater flows at all 3,000 designated outfalls. The screening will include qualitative field tests based on color, odor, or visually observed characteristics as indicators of illicit discharge sources. If the qualitative field tests do not provide enough information for the City to determine the source of the discharge, the discharge will be tested, while in the field, for selected chemical parameters. The City will investigate the illicit discharge within 15 days of its detection, and will follow-up the investigation with an action to further study the source of the discharge or eliminate it. Once the source of the discharge is discovered, written notification of the illicit discharge will be sent to the offending party and corrective actions will be enforced as described by the City Ordinance.



3.3.3.2 Implementation Schedule

PROGRAM	BMP 3-3	MEASURABLE GOALS	DATE DUE
3. Illicit Discharge Detection and Elimination	Program to Detect and Address Illicit Discharges	Evaluate existing program and identify additional program requirements and resource and training needs.	March 2004
		Acquire needed resources, training.	March 2005
		Implement program.	March 2006

3.3.4 BMP 3-4: Public Education on Illegal Discharges and Improper Disposal

The City of Prescott will develop a public education effort to inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste. This information will put special emphasis on controlling discharges associated with the impaired waters in the area including dissolved oxygen, nitrogen, and pH. (This BMP also addresses the minimum control measure for public education.)

Part of the education effort will involve description of allowable non-stormwater discharges including:

- Water line flushing
- Other potable water flushing
- Landscape irrigation
- Diverted creek flows
- Rising groundwater
- Groundwater infiltration to storm drains
- Uncontaminated pumped groundwater
- Foundation or footing drains (not including active dewatering systems)
- Crawl space pumps
- Air conditioning condensation
- Springs
- Non-commercial washing of vehicles
- Natural riparian habitat or wetland flows
- Swimming pools (dechlorinated)
- Fire fighting activities
- Other water sources not containing pollutants



3.3.4.1 Measurable Goals

The City of Prescott will develop or acquire public education materials in Year 1 of the permit period and determine an effective means of distribution (with prioritization). The materials will be distributed to all public employees in Year 2 of the permit period. The materials will be distributed to half of the businesses in Year 2 and half in Year 3 of the permit period.

3.3.4.2 Implementation Schedule

PROGRAM	BMP 3-4	MEASURABLE GOALS	DATE DUE
3. Illicit Discharge Detection and Elimination	Public Education on Illegal Discharges and Improper Disposal	Develop or acquire public education materials.	March 2004
		Determine an effective means of distribution.	March 2004
		Distribute materials to public employees.	March 2005
		Distribute materials to 50 percent of businesses.	March 2005
		Distribute materials to 50 percent of businesses.	March 2006
		Implementation Complete.	March 2007



4. CONSTRUCTION SITE STORMWATER CONTROLS

4.1 EPA Fact Sheet Program Requirement

Developing, implementing, and enforcing an erosion and sediment control program for construction activities that disturb one or more acres of land (controls could include silt fences and temporary stormwater detention ponds).

4.2 Current Programs

Currently, the City of Prescott requires construction sites to comply with the state NPDES Construction General Permit and nationally recognized building codes. Stormwater controls are included in the City's building/development inspections. Noncompliance can be cause for the City to stop inspections, thereby halting construction until the situation is remedied. Development plans are reviewed for compliance and several divisions of the Engineering Services Department and Community Development Department conduct inspections. The State of Arizona recently acquired oversight responsibility for the NPDES program, including new requirements for small MS4 operators and construction activities that cause one or more acres of land disturbance. Prescott is developing this Stormwater Program to meet these new requirements by implementing the following BMPs.

4.3 Selected BMPs for Construction Site Stormwater Control

Prescott will implement the following three BMPs to meet the regulatory requirements for construction site stormwater control outlined in 4.1 above. In addition, the City will review the EPA's menu of BMPs and other sources of information to select BMPs that meet the needs of Prescott (Appendix 2). Implementation of these BMPs will meet or exceed the minimum control measures that are outlined in the Phase II requirements. These select BMPs will put special emphasis on controlling discharges associated with the impaired waters in the area including dissolved oxygen, nitrogen, and pH.

4.3.1 BMP 4-1: Evaluate and Update Regulatory Authority and Procedures

The City of Prescott will evaluate existing legal authority to enforce the Phase II Permit requirements for erosion and sediment controls and proper waste management at construction sites, as well as the sanctions to ensure compliance with the requirements. If necessary, ordinances or other regulatory mechanisms will be updated or developed to provide the formal authority. City procedures will be modified (and codified), as necessary, to require site plan review and site inspection and enforcement with regards to stormwater control on new construction sites and redevelopment projects causing one or more acres of land disturbance.



4.3.1.1 Measurable Goals

The measurable goal for implementation of BMP 4-1 is to evaluate existing regulatory (legal) authority in Permit Year 1. Following this evaluation, the City Ordinance, City Code, or other regulatory mechanism and procedures will be updated, developed, and adopted in the second permit year. BMP 4-1 will be developed and implemented according to the following schedule.

4.3.1.2 Implementation Schedule

PROGRAM	BMP 4-1	MEASURABLE GOALS	DATE DUE
4. Construction Site Stormwater Controls	Ordinance or other regulatory mechanisms requiring erosion and sediment controls at construction sites.	Evaluate existing legal authority and procedures.	March 2006
		Update ordinance, city code or other regulatory mechanisms and procedures and adopt them.	July 2006
		Implementation complete.	September 2006

4.3.2 BMP 4-2: Revise Plan Review and Project Inspection Procedures

Currently the City reviews all site plans, drainage plans, and Stormwater Pollution Prevention Plan (SWPPPs) before providing the necessary grading permits. This process will begin with a checklist, which is being developed, for use during the review process. Upon City approval of the site development plan the project will be assigned to a City Inspector who will evaluate the effectiveness of site temporary sediment and erosion control measures, final stabilization, and overall site compliance with the SWPPP. Inspections will be ongoing throughout all phases of construction and will be conducted on all new construction projects.

4.3.2.1 Measurable Goals

The measurable goal for implementation of BMP 4-2 is to create a checklist to be used during the plan review process. Once the plans are approved and the permit is received, an inspector will be assigned to conduct inspections on the project. BMP 4-2 will be developed and implemented according to the following schedule.



4.3.2.2 Implementation Schedule

PROGRAM	BMP 4-2	MEASURABLE GOALS	DATE DUE
4. Construction Site Stormwater Controls	Revise Plan Review and Project Inspection Procedures.	Create checklist to outline the review and approval of all site plans.	June 2006
		Train city inspectors to provide inspection services on construction projects	June 2006
		Conduct inspections on all new construction sites.	June 2006
		Implementation complete.	August 2006

4.3.3 BMP 4-3: Construction Site Brochure or Flyer (Public Education)

Prescott will develop a public education brochure or flyer to inform public and construction site operators of the requirements for Construction Site Stormwater Controls. (This BMP also addresses the Public Education Minimum Control Measure.) This brochure will put special emphasis on controlling discharges associated with the impaired waters in the area including dissolved oxygen, nitrogen, and pH.

4.3.3.1 Measurable Goals

The City will develop or acquire public education materials in Year 1 of the permit period. The materials will be distributed to construction site operators in Year 2 of the permit period. BMP 4-3 will be developed and implemented according to the following schedule.

4.3.3.2 Implementation Schedule

PROGRAM	BMP 4-3	MEASURABLE GOALS	DATE DUE
4. Construction Site Stormwater Controls	Construction Site Brochure or Flyer.	Develop or acquire public education brochure or flyer.	March 2004
		Distribute educational materials to permit applicants.	March 2005
		Implementation Complete.	March 2005



4.3.4 BMP 4-4: Public Reporting Hotline

Prescott will set up a reporting hotline (i.e., a published phone number) for the public to report construction site problems. (This hotline may be combined with one for reporting illicit discharges.) This BMP will facilitate the ability of the public to provide information that will assist in detection of problems associated with stormwater discharges. The City will identify the mechanisms for tracking public reports of problems and establish a chain-of-command for handling responses.

4.3.4.1 Measurable Goals

The Measurable Goal will be to identify the responsible department to set up and monitor the hotline in the first permit year and set up and publicize the hotline in the second permit year. BMP 4-4 will be developed and implemented according to the following schedule.

4.3.4.2 Implementation Schedule

PROGRAM	BMP 4-4	MEASURABLE GOALS	DATE DUE
4. Construction Site Stormwater Controls	Public Reporting Hotline.	Identify Department to monitor hotline.	March 2004
		Set up hotline.	March 2005
		Publicize hotline.	March 2005
		Set of methods for forwarding reports to city inspectors.	March 2005
		Implement response program.	March 2005
		Implementation complete.	March 2005



5. POST CONSTRUCTION STORMWATER MANAGEMENT FOR NEW DEVELOPMENT/REDEVELOPMENT

5.1 EPA Fact Sheet Program Requirement

Developing, implementing, and enforcing a program to address discharges of post-construction stormwater runoff from new development and redevelopment areas. Applicable controls could include preventative actions such as protecting sensitive areas (e.g., wetlands) or the use of structural BMPs, such as grassed swales or porous pavement.

5.2 Current Programs

Several City departments and divisions have programs in-place to manage and mitigate effects of growth. The City's Planning and Zoning Division regulates development and redevelopment in Prescott. Orderly physical growth of the community is promoted through compatible land uses and safe and acceptable standards in accordance with City Code. The Public Works Department Engineering Services Division is responsible for design, survey, inspection of public works projects, the review of developer designs, and inspection of subdivision construction (streets and drainage). Prescott's Land Development Division coordinates land development with the Community Development Department. They review development designs to ensure streets and drainage improvements comply with City, state, and federal regulations, and coordinate floodplain activities to ensure compliance with the City's floodplain ordinance. Prescott adopted a Drainage Criteria Manual and codified a set of drainage regulations to ensure adequate provisions are made for disposal of stormwaters.

5.3 Selected BMPs for Post Construction Stormwater Management for New Development/Redevelopment

5.3.1 BMP 5-1: Evaluate and Update Ordinances and Guidance Document

Prescott will evaluate the City Code, the existing development and land use ordinances, and the Drainage Criteria Manual for opportunities to expand post-construction stormwater management on all regulated construction sites. These documents will be updated, and/or a new ordinance developed, to ensure that post-construction stormwater management for new development and redevelopment greater than or equal to one acre are addressed. The City will require post-construction runoff BMPs for new development and redevelopment and ensure proper long-term operation and maintenance of BMPs.



5.3.1.1 Measurable Goals

The measurable goal for implementation of BMP 5-1 is to evaluate the existing documents and identify needed updates in the first permit year and adopt the revised documents in the second permit year. Development and implementation will be according to the schedule below.

5.3.1.2 Implementation Schedule

PROGRAM	BMP 5-1	MEASURABLE GOALS	DATE DUE
5. Post-Construction Stormwater Management for New Development/Redevelopment	Evaluate and Update Ordinances and Develop Guidance Documents.	Evaluate existing requirements and identify needed updates.	July 2006
		Update and adopt changes.	December 2006
		Implementation Complete.	March 2007

5.3.2 BMP 5-2: Evaluate and Update Plan Review and Inspection Programs

Prescott will integrate post-construction stormwater quality requirements into plan review and inspection programs. They will evaluate existing procedures and identify needed changes and implement the revised programs. The City will inspect and maintain post-construction BMPs within the right-of-way. BMPs installed on private projects will be inspected biannually and if discrepancies are found, notification will be given to the responsible party to take corrective measures.

5.3.2.1 Measurable Goals

The measurable goal for implementation of BMP 5-2 is to evaluate existing procedures and identify needed changes in Permit Year 1 and to implement the revised programs in Permit Year 2. Development and implementation will be according to the following schedule.



5.3.2.2 Implementation Schedule

PROGRAM	BMP 5-2	MEASURABLE GOALS	DATE DUE
5. Post-Construction Stormwater Management for New Development/Redevelopment	Evaluate and Update Plan, Review and Inspection Programs.	Evaluate existing procedures and identify needed changes.	March 2004
		Implement the revised programs in Permit Year 2.	March 2005
		Implementation Complete.	March 2005

5.3.3 BMP 5-3: Develop a List of Permanent Structural and Non-structural BMPs Specific for Prescott

Permanent or long-term BMPs are important for control of stormwater runoff once construction activities are completed. While there are many types of structural and non-structural BMPs available for stormwater control, not all of them are applicable to Prescott. The City will evaluate permanent BMPs from the EPA's menu (Appendix 2) and other sources, and develop a list of applicable BMPs that could be referenced during development activities within Prescott.

5.3.3.1 Measurable Goals

The measurable goal for implementation of BMP 5-3 is to identify and evaluate permanent structural BMPs that would provide the best long term post-construction stormwater control for the City in Year 1 and develop a database or manual of selected structural BMPs during Year 2. Development and implementation will be according to the following schedule.



5.3.3.2 Implementation Schedule

PROGRAM	BMP 5-3	MEASURABLE GOALS	DATE DUE
5. Post Construction Stormwater Management for New Development/ Redevelopment	Evaluate and Identify Permanent Structural BMPs Specific for Prescott.	Evaluate existing menu of permanent structural BMPs and identify those that would be applicable to Prescott.	March 2004
		Develop and publicize a database of Permanent structural BMPs for long-term post-construction stormwater management.	March 2004
		Develop a maintenance and inspection schedule for post-construction stormwater management	March 2006
		Integrate BMPs into City stormwater planning.	March 2006
		Implementation Complete.	March 2006

5.3.4 BMP 5-4: Develop a Maintenance Plan for Non-structural BMPs

Non-structural BMPs are important for control of pollutants once construction activities are complete. The City will develop maintenance activities, schedules, and long-term inspection procedures for controls to reduce contaminants.

5.3.4.1 Measurable Goals

The measurable goal for implementation of BMP 5-4 is to prepare a checklist for biannually inspection and cleaning of permanent stormwater controls and conveyances. This checklist will include the number of basins and scuppers cleaned, number of miles of roads swept, tons of debris collected, and anticipated frequency of maintenance activities. Development and implementation will be according to the following schedule.



5.3.4.2 Implementation Schedule

PROGRAM	BMP 5-4	MEASURABLE GOALS	DATE DUE
5. Post Construction Stormwater Management for New Development/ Redevelopment	Develop a Maintenance Plan for non-structural BMPs.	Prepare biannual inspection checklist.	June 2006
		Implement inspection and maintenance activities.	October 2006
		Implementation Complete.	March 2007

5.3.5 BMP 5-5: Develop an Educational Program About Minimization of Water Quality Impacts

The City of Prescott will develop an educational program for developers, architects, and the public about designs that minimize water quality impacts. (This BMP also addresses the Public Education Minimum Control Measure.)

5.3.5.1 Measurable Goals

The measurable goal for implementation of BMP 5-5 is to prepare an education program using the municipal website and training materials to provide information about minimization of water quality impacts (i.e. low impact development or sustainable site design). The Development and implementation will be according to the following schedule.

5.3.5.2 Implementation Schedule

PROGRAM	BMP 5-5	MEASURABLE GOALS	DATE DUE
5. Post-Construction Stormwater Management for New Development/ Redevelopment	Develop an educational program about minimization of water quality impacts.	Develop educational program.	June 2007
		Add the program to the municipal website.	June 2007
		Implementation Complete.	June 2007



6. POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

6.1 EPA Fact Sheet Program Requirement

Developing and implementing a program with the goal of preventing or reducing pollutant runoff from municipal operations. The program must include municipal staff training on pollution prevention measures and techniques (e.g., regular street sweeping, reduction in the use of pesticides or street salt, or frequent catch-basin cleaning).

6.2 Current Programs

Prescott promotes pollution prevention (P2) through a number of city departments and community programs, including the Engineering Services Department, the Community Development Department, and the Solid Waste Department.

The Community Development Department is charged with the responsibility for protecting and enhancing the community's environmental, economic, and cultural and historic resources. The Director of Community Development manages and directs the activities, services, programs, and projects of the divisions of Planning & Zoning, Building Inspections, Economic Development, and Historic Preservation.

Prescott's Public Works Department manages the City's water and wastewater; and the Solid Waste Department manages the solid waste program. The Department maintains surface and groundwater facilities and coordinates water conservation and environmental monitoring programs to ensure a healthy water supply. The Utility Division manages Prescott's water supply and wastewater collection activities. Responsibilities of the Utility workers are to monitor water and sewer lines throughout the City, and to inspect utilities associated with construction projects. Environmental Service's Solid Waste Division is responsible for residential and commercial waste collection, and the City's curbside recycling program. The Division operates a Transfer Station at 2800 Sundog Ranch Road, a joint venture between the City of Prescott and Yavapai County, which also functions as a collection point for solid waste.

Prescott developed the Neighborhood Services Program that offers free services and resources to promote healthy neighborhoods and community interaction. The Program promotes cleanups and offers free use of roll off dumpsters to neighborhoods.



6.3 Selected BMPs for Municipal Operations

6.3.1 BMP 6-1: Evaluate Current Source Controls

The City of Prescott will evaluate the current source controls maintained by municipal operations and target areas of weakness for improvement.

6.3.1.1 Measurable Goals

The measurable goal for implementation of BMP 6-1 is to compile a list of all currently implemented source control measures at City of Prescott municipal operations. Maintenance activities, schedules, and long-term inspection procedures for structural and nonstructural stormwater controls to reduce floatables and other pollutants discharged from separate storm sewers will be evaluated. Current methods and controls for reducing pollutant discharges from roads, parking lots, maintenance and storage yards, fleet or maintenance shops, and other storage facilities will be evaluated. A checklist will be developed for inspection to document BMP needs, maintenance, and installation. Site pollution prevention programs will be developed for every municipal site including routine biannual inspections, to ensure adequate placement and applications of BMPs. Development and implementation will be according to the schedule below.

6.3.1.2 Implementation Schedule

PROGRAM	BMP 6-1	MEASURABLE GOALS	DATE DUE
6. Pollution Prevention/Good Housekeeping for Municipal Operations	Evaluate Current Source Controls.	Identify municipal facilities and operations targeted for improved source control measures.	October 2003
		Create a checklist for inspection, maintenance, and installation of BMPs.	June 2006
		Document current source control measures at each facility or for each operation.	June 2006
		Implementation Complete.	June 2006



6.3.2 BMP 6-2: Develop P2/Good Housekeeping Training Component

The City of Prescott will develop a P2 and Good Housekeeping training program for municipal employees as part of this SWMP. This BMP will target appropriate sectors of municipal operations and provide activity-specific training with an ultimate goal for preventing or reducing pollutant runoff from municipal operations. The City of Prescott will use training materials that are available from EPA, the State of Arizona, Tribes, or other organizations, and will include employee training to prevent and reduce stormwater pollution from activities, such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance. This annual training will include all building maintenance personnel, inspectors, and stormwater pollution control personnel to promote awareness of pollution reduction methods, discuss any new operations, equipment or protocols.

6.3.2.1 Measurable Goals

The measurable goal for implementation of BMP 6-2 is to develop an educational campaign for municipal operations. This campaign may utilize instructional videos, power point presentations, and informative posters to educate employees and the public about the importance of stormwater pollution prevention. Development and implementation will be according to the schedule below.

6.3.2.2 Implementation Schedule

PROGRAM	BMP 6-2	MEASURABLE GOALS	DATE DUE
6. Pollution Prevention/Good Housekeeping for Municipal Operations	P2/Good Housekeeping Training Component.	Compile a library of P2/Good Housekeeping information from existing sources.	March 2004
		Generate and distribute instructional programs various municipal facility offices.	March 2006
		Implementation Complete.	March 2006

6.3.3 BMP 6-3: Consider Additional BMPs for Implementation

Through BMP 6-1 the City of Prescott will have an opportunity to review other BMPs to prevent stormwater pollution and improve conditions through the modification of municipal operations. Prescott will review the EPA's list of suggested BMPs for pollution prevention (Appendix 2) and search other BMP information sources for ways to reduce stormwater pollution. This BMP will include preparation and implementation of a plan to remove wastes from the MS4 and deliver it to the City's materials handling site for segregation and recycling or proper disposal.



6.3.3.1 Measurable Goals

The measurable goal for implementation of BMP 6-3 is to review, adopt, and promote the use of BMPs applicable to Prescott's municipal operations that would promote reductions in discharges of pollutants from municipal operations and incorporate at least one new measure each year throughout the plan term.

6.3.3.2 Implementation Schedule

PROGRAM	BMP 6-3	MEASURABLE GOALS	DATE DUE
6. Pollution Prevention/Good Housekeeping for Municipal Operations	Consider Additional BMPs for Implementation.	Review Alternative BMPs and consider maximum benefit scenarios for the City of Prescott.	March 2004
		Adopt, implement and improve applicable BMPs.	March 2005 – March 2007
		Implementation Complete.	December 19, 2007



7. REPORTING AND PLAN MAINTENANCE

The City will submit an annual report each year, on or before September 30, for each plan year (2003-2007) to ADEQ. During the process of completing the annual report, City personnel will also review the plan and arrange for updates as needed in accordance with the requirements in the General Permit. The annual report will include all information specified in the General Permit.



PART III – APPENDICES

Appendix F
City of Prescott's Annual Reports 2011

Small MS4 Annual Report Form

Please refer to the attached instructions as you prepare your annual report.

A. General Information

Name of MS4: City of Prescott

Contact Name: Greg Toth, City Drainage Engineer

Telephone Number: 928-777-1622 Email Address: greg.toth@prescott-az.gov

Annual Report Period: ☒ July 1, 2010 – June 30, 2011 ☐ July 1, 2012 – June 30, 2013
☐ July 1, 2011 – June 30, 2012 ☐ July 1, 2013 – June 30, 2014

B. SWMP Modifications and Additional Information. Attach a brief explanation if you check "yes" to any of the following statements.

- | | | |
|---|---|--|
| 1. Changes have been made or are proposed to the SWMP since the last annual report, including changes in response to ADEQ's review. | YES <input type="checkbox"/> | NO <input checked="" type="checkbox"/> |
| 2. The MS4 has annexed lands. | YES <input type="checkbox"/> | NO <input checked="" type="checkbox"/> |
| 3a. The MS4 discharges directly to an impaired water. | YES <input checked="" type="checkbox"/> | NO <input type="checkbox"/> |
| 3b. Water within 10 miles of the MS4's jurisdiction has been identified as impaired. | YES <input checked="" type="checkbox"/> | NO <input type="checkbox"/> |
| 4a. The MS4 discharges directly to water for which a TMDL has been established. | YES <input type="checkbox"/> | NO <input checked="" type="checkbox"/> |
| 4b. A TMDL has been established for a water within 10 miles of the MS4's jurisdiction. | YES <input type="checkbox"/> | NO <input checked="" type="checkbox"/> |
| 5. The MS4 has conducted analytical monitoring of stormwater quality. | YES <input type="checkbox"/> | NO <input checked="" type="checkbox"/> |
| 6. The MS4 is relying on another government entity to satisfy some permit obligations. | YES <input type="checkbox"/> | NO <input checked="" type="checkbox"/> |

C. Stormwater Management Program Status. Provide the status of every BMP and measurable goal in your SWMP as described in the instructions.

Table 1

Minimum Control Measures	BMP	Measurable Goal (steps to measure progress)	Start Date	Target Completion Date	New or Revised	Implementation Status/ Frequency/ Achievement Date (completed, ongoing, not started)
Public Education & Outreach	1-1 Explore Partnership Opportunities	Contact previously identified representatives available and interested in participating.	8/03			Complete. A partnership for has been established with Prescott Creeks (http://www.prescottcreeks.org) through the creation of the Granite Creek Watershed Improvement Planning Council which is being funded through an ADEQ grant.
	1-2 Utility Bill Inserts	Develop and distribute stormwater brochure.	3/04			Complete. 20,000 brochures printed. Handed out at City Fair 6/25/05. Direct public mailing 9/05.
	1-3 Municipal Website Stormwater Information	Update website with stormwater management information.	3/05			Complete. Stormwater Management information page and links are included on the City of Prescott website and updated as needed.
	1-4 Outreach to Homeowners Campaign	Generate and distribute information through various media outlets.	9/05			Ongoing. Various avenues of delivering information to the public have been used including feature articles in the local newspaper, <i>The Courier</i> .
	1-5 Outreach to Businesses	Develop and distribute informational literature.	9/05			Ongoing. Selected sectors (commercial car washes, auto shops, and carpet cleaning) industry educational materials were distributed by mail to all representative business within the City limits.
Public Involvement/ Participation	2-1 Implement Public Notice	Public notice and public meetings.	3/04			Ongoing. Public notice and meetings were held during the City Council discussion and adoption of the stormwater management ordinances. Other meeting and updates shall occur as needing.

Minimum Control Measures	BMP	Measurable Goal (steps to measure progress)	Start Date	Target Completion Date	New or Revised	Implementation Status/ Frequency/ Achievement Date (completed, ongoing, not started)
	2-2 Establish AZPDES SWMP Steering Committee	Form steering committee. Continue updating committee on SWMP implementation.	6/10			Complete. A new committee, The Watershed Improvement Council, was established as part of the aforementioned ADEQ grant.
	2-3 Provide Volunteer Opportunities	Form a volunteer committee to participate in stormwater community activities	6/10	6/12		Ongoing. Through the Watershed Improvement Council and the three year ADEQ grant funding, volunteers are being trained and will assist in gathering environmental information for all the Prescott area creeks.
	2-4 Establish the Procedure for Receiving and Reviewing Public Comments	Determine who will receive public comments and the procedure for review.	5/06			Complete. Greg Toth has been assigned as the contact for public comment.
	2-5 Provide Access for Interested Parties to the SWMP and NOI	Post the SWMP and NOI on the City website make them available to the public.	5/06			Complete. The SWMP and NOI have been posted on the City website. A permit package is available at City Hall, the Public Works Department, and the Public Library.
Illicit Discharge Detection and Elimination	3-1 Map Stormwater Sewer System	Map 100 % of the drainage system.	1/06			Complete. We are in the process of developing our GIS system to include a comprehensive storm sewer layout with attributes for each link and outflow point.
	3-2 Ordinance for Illicit Discharge Detection and Elimination	Draft, adopt and implement ordinance.	1/04			Complete. December 2007.
	3-3 Program to Detect and Address Illicit Discharges	Develop and illicit discharge training program.	1/06			Ongoing. We have been coordinating with the Fire Department to assure proper procedures are in place in handling Illicit Discharges.

Minimum Control Measures	BMP	Measurable Goal (steps to measure progress)	Start Date	Target Completion Date	New or Revised	Implementation Status/ Frequency/ Achievement Date (completed, ongoing, not started)
	3-4 Public Education on Illicit Discharge and Improper Disposal	Determine effective means of training material distribution for public employees.	3/06			Ongoing. We have had two public meetings with area contractors to educate them on proper care on construction sites and have obtained stick-on label for roadside drainage basins.
Construction Site Stormwater Runoff Control	4-1 Ordinance Requiring Erosion and Sediment Controls at Construction Sites	Draft, adopt and implement ordinance.	9/05			Complete. December 2007
	4-2 Revise Plan Review and Project Inspection Procedures	Create checklist to outline the review and approval of site plans; train City inspectors; and conduct inspections on all new construction sites.	5/06			Ongoing. Plan checklist has been developed and is being reviewed by staff. Inspectors and plan reviewers have received training on SWPPP requirements.
	4-3 Construction Site Brochure	Finalize public education brochure or flyer. Distribute to permit applicants.	3/04		Revised	Complete. An updated and separate Erosion and Sedimentation Control section has been developed and is in review.
	4-4 Public Reporting Hotline	Set up permanent reporting hotline and follow-up action/response procedures.	3/04			Complete. Permanent illicit discharge hotline established and published on City web page 9/16/05. Future publications will reference hotline as appropriate.

Minimum Control Measures	BMP	Measurable Goal (steps to measure progress)	Start Date	Target Completion Date	New or Revised	Implementation Status/ Frequency/ Achievement Date (completed, in progress, not started)
Post-Construction Stormwater Management in New Development and Re-development	5-1 Evaluate and Update Ordinances and Develop Guidance Documents	Update and adopt changes to ordinances and guidance documents	12/05	12/07		Complete. Ordinance adopted December 2007.
	5-2 Evaluate and Update SWMP Review and Inspection Programs	Develop new checklist for permit applicants, including construction NOI procedures, AZPDES construction SWPPP checklist, and list of specific erosion control alternatives.	1/04			Ongoing. Training program for applicable public works staff is ongoing and dependent on funding,
	5-3 Evaluate and Identify Structural BMPs Specific for Prescott	Adopt and integrate identified additional suitable BMPs into the City stormwater planning process.	1/04	6/12	Revised	Ongoing. The City is developing new General Engineering Requirements (GER) that will include BMP design criteria.
	5-4 Develop a Maintenance Plan for Non-structural BMPs	Prepare a bi-annual checklist and implement inspection and maintenance activities.	5/06			Ongoing. Development of a maintenance plan is underway but funding is limiting this operation.
	5-5 Develop an Educational Program About Minimization of Water Quality Impacts	Develop an educational program and add it to the City website	5/06			Complete. Information on the cause, results, and minimization practices has been added to the City website.

Minimum Control Measures	BMP	Measurable Goal (steps to measure progress)	Start Date	Target Completion Date	New or Revised	Implementation Status/ Frequency/ Achievement Date (Completed, in progress, not started)
Pollution Prevention/ Good House-keeping for Municipal Operations	6-1 Evaluate Current Source Controls	Identify municipal facilities and operations targeted for improved source control measures; create a checklist for inspection, maintenance and installation of BMPs; and document current source control measures at each facility	1/04			In Progress. City identified public works maintenance facility, the airport, municipal golf course, waste transfer station, parks department, and two wastewater treatment plants for inspection to determine sufficiency of existing stormwater and source controls. Funding opportunities for implementation are being investigated.
	6-2 Develop Pollution Prevention/Good Housekeeping Training Component	Compile a library of pollution prevention/good housekeeping information and provide a training program for municipal operations.	1/04			Ongoing. Pollution prevention and good housekeeping has been ongoing and a training/information program has been implemented.
	6-3 Consider Additional BMPs for Implementation	Review, adopt and promote use of BMPs applicable to municipal operations that would reduce discharges of pollutants from municipal operations.	1/04			Ongoing. Additional BMPs will be evaluated and adopted as new technologies are necessary and become available.

D. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signed
Signature

September 30, 2011
Date

Gregory Toth
Name (printed)

City Drainage Engineer
Title



Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, Arizona 85007

**MUNICIPAL SEPARATE STORM
SEWER SYSTEM (MS4)
COMPLIANCE AUDIT**

CITY OF PRESCOTT

AUDIT REPORT

**Audit Date:
March 21–22, 2012**

**Report Date:
May 24, 2012**

Executive Summary

On March 21-22, 2012, the U.S. Arizona Department of Environmental Quality (ADEQ) contractor, PG Environmental, LLC (hereinafter, PG), conducted an audit of the City of Prescott Municipal Separate Storm Sewer System (MS4) Program with assistance from ADEQ staff (hereinafter, collectively, the Audit Team).

This audit report identifies potential non-compliance, program deficiencies, and positive attributes and is not a formal finding of violation. Program deficiencies are areas of concern for successful program implementation. Positive attributes indicate overall progress in implementing the Program.

Several elements of the City's MS4 Program were particularly notable:

1. The City had a beneficial partnership with, and sponsorship of, Prescott Creeks and the Watershed Improvement Council which it used to leverage resources including: public education in the form of pamphlets; outreach in the form of stream cleanups and other activities; and illicit discharge surveys and monitoring along impaired streams.
2. The City was in the final stages of developing a comprehensive industrial pretreatment program that might provide areas of collaboration with illicit discharge screening and recordkeeping.
3. The City had recently submitted Notice of Intents for Multi-Sector General Permit (MSGP) coverage for multiple municipal facilities, and was in the process of training key staff on associated Stormwater Pollution Prevention Plans (SWPPPs).
4. The City had provided effective erosion control practices on roadway cut slopes at City sponsored construction projects.
5. Multiple abandoned development project sites throughout the City had been left in relatively stable and controlled conditions from a stormwater perspective.
6. The City was in the process of developing a drainage criteria manual to address drainage and post-construction BMPs specific to the area.
7. City construction inspection staff were knowledgeable and extensively involved in all Capital Improvement Projects (CIPs).
8. The City appeared to have a thorough inventory of current disturbed construction sites.

The following potential non-compliance and program deficiencies are considered, by the Audit Team, to be the most significant:

1. The City's Stormwater Management Program (SWMP) did not accurately reflect current program components.
2. The City's Illicit Discharge Detection and Elimination (IDDE) program did not clearly identify the location of all outfalls from the storm sewer system.
3. The City had not performed comprehensive dry weather field screening on outfalls/storm sewer system.
4. The City had not conducted pollution prevention/good housekeeping training for all municipal employees.
5. Concerns pertaining to improper pollution prevention practices were noted during site visits at municipal facilities conducted as a component of the audit.
6. Inadequate and inappropriate uses of BMPs to effectively control potential stormwater pollutants at private construction projects were noted during site visits.
7. The City did not provide programmatic documentation of a program to address stormwater runoff from applicable new development and redevelopment.
8. The City did not have a long-term operation and maintenance program for installed post construction BMPs.

9. The City had not conducted required monitoring of 303(d) listed receiving waters; did not possess sampling data collected from 303(d) listed receiving streams; and had not submitted data with recent annual reports.

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Section 1.0 Introduction

On March 21–22, 2012, the Arizona Department of Environmental Quality (ADEQ) contractor, PG Environmental, LLC, with assistance from ADEQ staff (hereinafter, collectively, the Audit Team) conducted an audit of the City of Prescott Municipal Separate Storm Sewer System (MS4) Program.

The City of Prescott is approximately 41.5 square miles in area and is located predominantly within the Granite Creek Watershed. Two lakes are in the vicinity of the City: Willow Lake and Watson Lake. The City is located near the towns of Chino Valley and Prescott Valley and all three cities are within Yavapai County. The City is located within the Yavapai County Flood Control District. According to the City's Storm Water Management Program (hereafter, SWMP) the City has approximately 400 miles of streets and storm sewers.

Section 1.1 Permit and Storm Water Management Plan

Discharges from the City of Prescott (hereinafter, the City or Permittee) MS4 are regulated under the provisions of the Arizona Pollutant Discharge Elimination System program (Arizona Revised Statutes, Title 49, Chapter 2, Article 3.1 and Arizona Administrative Code, Title 18, Chapter 9, Articles 9 and 10), Permit No. AZG2002-002, *State of Arizona Pollutant Discharge Elimination System General Permit for Discharge from Small Municipal Separate Storm Sewer Systems (MS4s) to Waters of the United States*, (hereinafter, the Permit), effective December 19, 2002. The Permit expired on December 19, 2007, but has been administratively extended by ADEQ.

The Permit authorizes the City to discharge stormwater runoff and certain non-stormwater discharges from its Small MS4 to waters of the United States, under the Permit terms and conditions. Section A of Part V, *Storm Water Management Program (SWMP)*, of the Permit requires the City to develop, implement, and enforce a SWMP designed to reduce the discharge of pollutants from the regulated Small MS4 to the maximum extent practicable (MEP) to protect water quality.

Pursuant to Part V of the Permit, the Permittee developed a SWMP (the SWMP is dated May 2006). The City was first permitted in December 2002, and it has been developing its MS4 Program since that time. At the time of this audit, the City was in Permit Year ten.

Section 1.2 Purpose of Audit

The purpose of the audit was to obtain information that will assist ADEQ in assessing the City's compliance with the requirements of the Permit and associated SWMP, as well as, the implementation status of the City's SWMP. The audit schedule is presented as Appendix A. The Exhibit Log and Photograph Log are provided as Appendices B and C, respectively. Copies of the Permit, SWMP, and 2011 Annual Report are included as Appendices D, E, and F, respectively.

Section 1.3 Program Areas Evaluated

The audit focused on the MS4 Program components and associated Permit requirements with the following Minimum Control Measures (MCMs):

- | | |
|-------|---|
| MCM 1 | Public Education and Outreach |
| MCM 2 | Public Involvement/Participation |
| MCM 3 | Illicit Discharge Detection and Elimination |
| MCM 4 | Construction Site Stormwater Runoff Control |

- MCM 5 Post-Construction Stormwater Management in New Development and
Redevelopment
- MCM 6 Pollution Prevention/Good Housekeeping for Municipal Operations

The Audit Team did not observe deficiencies regarding MCM's 1 and 2 during the audit; therefore, no further discussion of these MCMs is included in this report. Observations regarding the City's implementation of MCM's 3-6, overall observations, and monitoring requirements have been included in this report.

Section 1.4 Audit Process

The Audit Team obtained information through a series of interviews with representatives from the City's Public Works Department, along with a series of site visits, record reviews, and field verification activities. It should be noted that this audit report does not attempt to comprehensively describe all aspects of the City's SWMP, fully document all lines of questioning conducted during personnel interviews, or document all in-field verification activities conducted during site visits.

ADEQ contractor representatives presented their credentials at the opening meeting held at the Public Works Department. A sign in sheet from that meeting is presented in Appendix B, Exhibit 1. The primary representatives involved in the audit were the following:

City of Prescott MS4 Audit: March 21-22, 2012	
Public Works Department	Gregg Toth, City Drainage Engineer Gwen Rowitsch, Engineering Technician
Arizona Department of Environmental Quality	Eileen Dunn, Project Manager – Hydrologist, Surface Water Section, Permits Unit Cristian Kistemann, Enforcement Officer, Water Quality Compliance Enforcement Unit Peter Jagow, Compliance Inspector. Water Quality Industrial Field Services Unit
ADEQ Contractors	Wes Ganter, PG Environmental, LLC Candice Owen, PE, PG Environmental, LLC

Section 2.0 Program Evaluation Results

This audit report identifies potential non-compliance, program deficiencies, and positive attributes and is not a formal finding of violation. Program deficiencies are areas of concern for successful program implementation. Positive attributes indicate a permittee's overall progress in implementing the SWMP. The Audit Team documented only positive attributes that were innovative (beyond minimum requirements). Some areas were found to be simply adequate; that is, neither particularly deficient nor innovative.

During the audit, the Audit Team obtained documentation and other supporting evidence regarding compliance with the Permit and associated SWMP. The SWMP contains program requirements, summaries of current program areas, and selected Best Management Practices (BMPs) with implementation schedules.

Section 2.1 Program Management

Part V, *Storm Water Management Program (SWMP)*, of the Permit requires the City to develop, implement, and enforce a SWMP. Specific requirements and components related to the City's program are outlined in Part V, Sections B – G of the Permit. Descriptions and details regarding the audit observations, as well as, supporting documentation regarding the program are provided in this section.

Deficiency Noted:

2.1.1 The City's Stormwater Management Program (SWMP) did not accurately reflect current program components. Part V, Section E.1 of the Permit states "The permittee shall annually review the SWMP in conjunction with preparation of the annual report required under Part V, Section G." City staff confirmed that the City's SWMP had not been updated since its development in 2006. Additionally, City staff indicated to the Audit Team that the SWMP was not reflective of current City MS4 program components.

Upon review, the Audit Team found multiple instances of conflicting information between the SWMP and the 2011 Annual Report (Appendix F). Two examples are provided. Example 1: BMP 3-3 of the Annual Report states the Implementation Status of the Program to Detect and Address Illicit Discharges is "Ongoing. We have been coordinating with the Fire Department to assure proper procedures are in place in handling Illicit Discharges." Yet, BMP 3-3 of the SWMP states "Program implementation will involve at a minimum, annual dry weather field screening for non-stormwater flows at all 3,000 designated outfalls. The screening will include qualitative field tests based on color, odor, or visually observed characteristics as indicators of illicit discharge sources. If the qualitative field tests do not provide enough information for the City to determine the source of the discharge, the discharge will be tested, while in the field, for selected chemical parameters." The connection between these two statements for BMP 3-3 was unclear to the Audit Team.

Example 2: The projected "Due Dates" for each BMP listed in the SWMP are not amended to reflect the current program, and range from August 2003 to December 2007. Multiple due dates also conflict with information provided in the 2011 Annual Report. For example, Section 3.3.1.2 of the SWMP provides an "Implementation Complete Date" of March 2007 for mapping the City's storm sewer system. The comment area for "3-1 Map Storm Sewer System" on page 3 of the City's 2011 Annual Report states "We are in the process of developing our GIS system to include a comprehensive storm sewer layout with attributes for each link and outflow point." Additionally, a "Target Completion Date" is not assigned for this BMP.

As required by the Permit, the City must review the SWMP annually. Additionally, the Audit Team recommends the City commit to making this update an iterative process and an opportunity for program evolution. The SWMP updates should include language to meet permit requirements and help guide actions required of the program.

For the reasons stated above the Audit Team did not attempt to determine compliance in this report based on SWMP component language or implementation schedules.

Section 2.2 Illicit Discharge Detection and Elimination

Part V, Section B.3.a, *Illicit Discharge Detection and Elimination*, of the Permit requires the City to develop, implement, and enforce an illicit discharge detection and elimination (hereinafter, IDDE) program. Specific requirements and components related to the City's IDDE program are outlined in Part V, Sections B.3 (b) - (g) of the Permit. Descriptions and details regarding the audit observations, as well as supporting documentation, regarding this MCM are provided in this section.

Potential Non-Compliance:

2.2.1 The City's IDDE program did not clearly identify the location of all outfalls from the storm sewer system. Part V, Section B.3.b of the Permit states that the City shall "develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls."

The Audit Team submitted a Records Request, via email, to the City on March 12, 2012 and solicited the Permittee to provide "Storm drain system map and onsite demonstration of any associated mapping tools. Emphasize layers/mapping that informs the MS4 program activities (e.g., storm drain system, structural controls, outfalls, receiving waters, etc.)" (see Appendix B, Exhibit 2, Item No. 7).

During the audit, this request was again repeated by the Audit Team. The City did not provide the Audit Team with a map that showed the locations of all outfalls and waterways. City staff indicated that mapping was "limited" with portions of the system already mapped, but that the City was in the process of conducting hydrologic and hydraulic drainage studies with funding from the Flood Control District that would take inventory of the storm sewer system including outfalls. City staff were unsure when the studies would be completed.

Per requirements in the Permit and the SWMP, the City should inventory and map all outfalls to the municipal storm sewer system.

2.2.2 The City had not performed comprehensive dry weather field screening on outfalls. Part V, Section B.3.f of the Permit states that the City shall "Conduct dry weather field screening for non-stormwater flows. The screening must include qualitative field tests based on color, odor, or visually observed characteristics as indicators of discharge sources." Section 3.3.3.1 of the City's SWMP states, "Program implementation will involve at a minimum, annual dry weather field screening for non-stormwater flows at all 3,000 designated outfalls. The screening will include qualitative field tests based on color, odor, or visually observed characteristics as indicators of illicit discharge sources. If the qualitative field tests do not provide enough information for the City to determine the source of the discharge, the discharge will be tested, while in the field, for selected chemical parameters."

The Audit Team formally requested the Permittee provide "A representative schedule, map, or description of any outfall inspection program used to identify illicit discharges and/or connections." and "An inventory of businesses, entities, or areas inspected, visited, or observed as part of the illicit discharge program. Also provide a copy of the inspection form used by city inspectors." (see Appendix B, Exhibit

2, Item No. 8 and 9). During the audit, the City staff did not provide the Audit Team with record of having conducted annual dry weather field screening of 3,000 outfalls or the storm sewer system. The City staff stated that a survey of a selection of outfalls had been completed in 2010 by the watershed group Prescott Creeks, but City staff could not provide this information and acknowledged that they do not believe the storm system has 3,000 outfalls.

As required by the Permit, the City must perform and document annual dry weather screening of all identified outfalls based on a comprehensive outfall survey consistent with the Permit and in accordance with the future SWMP updates. Additionally, the City should modify the SWMP to reflect current outfall inventory and screening practices.

Deficiency Noted:

2.2.3 The City did not have a system in place to record illicit discharge incident information.

The Audit Team also formally requested an “Onsite demonstration of the database or system used to record illicit discharge incident information. As part of this effort, 2 - 3 hardcopy examples of a completed illicit discharge incident that includes identification, response, and remedy. At least one of the examples should include an example/case file of an incident where enforcement was used (ideally full extent of enforcement authority).” (see Appendix B, Exhibit 2, Item No. 10). No form of illicit discharge incident recordkeeping was provided to the Audit Team. City staff indicated that calls were directed to Gregg Toth, City drainage engineer, who investigated each incidence as soon as feasible. Additionally, an incidence report form is located on the Prescott Creeks website; however the City did not possess a record of any reported incidences from the website. In summary, the Audit Team determined the City was not maintaining records of past and/or ongoing illicit discharges.

The Audit Team recommends, the City develop a system to record illicit discharge incidents.

Section 2.3 Pollution Prevention/Good Housekeeping for Municipal Operations

Part V, Section B.6.a, *Pollution Prevention/Good Housekeeping for Municipal Operations*, of the Permit requires the City “develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations due to activities, including but not limited to park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance.” Provisions in Part V, Sections B.6.a. (i)-(iii) establish specific requirements to be addressed as part of the operation and maintenance program.

Deficiency Noted:

2.3.1 The City had not conducted pollution prevention/good housekeeping training for municipal employees. Part V, Section B.6.a of the Permit requires the City to “Develop and implement an operation and maintenance program that includes a training component.”

The Audit Team formally requested the Permittee provide “Municipal employee training records and syllabus (i.e., training content) on pollution prevention and IDDE.” (see Appendix B, Exhibit 2, Item No. 32). During the audit, City staff provided a Training Outline that included multiple types of training for various City employees scheduled to be conducted in 2012 (see Appendix B, Exhibit 3). City staff indicated that the City was currently in the process of training facility supervisors on requirements of newly implemented SWPPPs. Staff also conveyed that the City had plans to create a training film for all employees. During the audit, line staff at multiple municipal facilities stated that they had not received training on the MS4 permit or components of pollution prevention and good housekeeping. City staff

stated that training had yet to be provided to line staff. Additionally, no training records or additional materials were provided to the Audit Team.

As required by the Permit, the City should evaluate its planned training program to ensure it reaches all municipal employees whose job responsibilities may have the potential to impact stormwater. Additionally, the City should update the SWMP to include a description of the training program once it is implemented and should identify the person(s) responsible for training. The Audit Team recommends the City maintain records of training documenting attendance and types of training conducted.

2.3.2 Concerns pertaining to improper pollution prevention practices were noted during site visits at municipal facilities. Part V, Section B.6.a.ii of the Permit states that the permittee must address “Controls to reduce or eliminate the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet maintenance shops with outdoor storage areas, and salt and sand storage locations and snow disposal areas.” The Audit Team conducted site visits at four municipal facilities: Fleet Facility; Sundog Road Waste Water Treatment Plant (hereafter, WWTP); Sundog Yard, Transfer and Streets Facility; and the City-owned golf course. No issues were identified at the golf course or Fleet Facility. Sampling locations and outfalls to facilitate SWPPP compliance were not designated at the WWTP. Concerns at the Sundog Yard are provided, below.

During a site visit at the Sundog Yard, Transfer and Streets Facility, the Audit Team observed the following improper pollution prevention and good housekeeping practices:

- Washing of metal fabrication waste from a concrete pad into an adjacent concrete stormwater conveyance flowing northwest under the perimeter fence was observed (see Appendix C, Photographs 1 and 2). After flowing under the fence the water flowed into an onsite earthen drainage ditch. While newer in construction, the pad did not include controls for treatment and/or disposal of wash water. Two additional wash areas were located onsite and were readily available for use. One wash pad was connected to an oil water separator (see Appendix C, Photograph 3) and provided an alternative wash area better equipped to receive wash water.
- Excess/spilled bonding dust suppression agent was present in two separate areas on the southwestern end of the site. City staff explained that procedures for mixing the agent include combining the agent and millings on the ground and mixing them with equipment.
- A dry well centrally located onsite was suspected by ADEQ staff to require an Aquifer Protection Permit (APP) application/NOI (see Appendix C, Photograph 4). The ADEQ staff member stated she would follow up with the City to aid in determining applicable requirements for the dry well. Dry well regulations are contained in Arizona Revised Statutes §§ 49-331 through 49-336.
- Sampling locations and outfalls to facilitate SWPPP compliance were not designated at the Sundog Yard.

As required by the Permit, the City must implement controls to reduce or eliminate the discharge of pollutants from municipal facilities. These controls should include best management practices to facilitate good housekeeping. For this reason, the City should perform the following at the Sundog Yard and WWTP to address improper pollution prevention measures found there: dry sweep metal fabrication wastes; clean up any excess millings additive left on the yard, as soon as possible, after activities; coordinate with ADEQ on an application/NOI for the dry well located at the yard; and install signage, to indicate stormwater outfalls identified in all facilities’ SWPPPs.

Section 2.4 Construction Site Stormwater Runoff Control

Part V, Section B.4.a, *Construction Site Stormwater Runoff Control*, of the Permit requires the Permittee to “develop, implement, and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre.” The Construction Site Stormwater Runoff Control Program must include, at a minimum, the specific requirements listed in Part V, Sections B.4. (b) – (e) of the Permit.

During the audit, the City possessed a thorough inventory of current disturbed construction sites. From this inventory, the Audit Team conducted site visits at a total of five active construction sites and multiple inactive sites. Two of the active sites were City-owned projects administered by the City’s Public Works Department, the third active site was a private car wash of less than one acre in area located at 915 East Gurley Street, the fourth was the future site of Natural Grocers located at the corner of Gail Gardener Way and Willow Creek Road, and the fifth site was the Trader Joe’s development on North Lee Boulevard.

The inactive construction sites visited were large subdivisions of single family homes located in the areas off of Prescott Lakes Parkway northwest of Highway 89 (see Appendix C, Photographs 5 and 6). Overall, inactive sites were found to be adequately stabilized with regards to possible sources of pollution to the MS4.

The City’s Capital Improvement Projects (CIPs) observed by the Audit Team were utilizing the appropriate erosion and sediment control BMPs, and City contractors confirmed the presence of City inspectors onsite the majority of work days. The Audit Team found City inspectors to be knowledgeable about each of the CIPs. Additionally, slope stability on City projects was adequate on two sites (see Appendix C, Photographs 7 and 8). Adequate BMPs were installed at the North Reservoir Reconstruction Project, located off of Douglas Avenue, including: trackout pad, lined concrete washout pit, and appropriate erosion and sediment control measures for ditches on Douglas Avenue affected by the project (Appendix C, Photographs 9 and 10). Adequate BMPs were installed at the Williamson Valley Road Reconstruction Project, located near the intersection of Williamson Valley Road and Iron Springs Road, including: staked straw waddles, rock check dams, and strategically placed velocity controls (see Appendix C, Photographs 11 through 15). The site operator explained that BMPs had been monitored throughout the snow melt and had been replaced or corrected as needed.

Observations and findings at the three private sites are discussed in Sections 2.4.1, below. The purpose of the site visits was to assess the City’s oversight activities for stormwater compliance at construction sites. It should be noted that the City was experiencing melting from approximately twelve inches of snow during the site visits. Summary observations pertaining to these sites are presented where they directly pertain to the City’s oversight obligations under the Permit.

Deficiency Noted:

2.4.1 Inadequate and inappropriate uses of BMPs to effectively control potential stormwater pollutants at private construction projects. Part V, Section B.4.a of the Permit requires the City to “Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre.”

The Audit Team conducted a site visit at the Flyz Toy Tub Car Wash located at 915 East Gurley Street. It should be noted that this site was less than 1 acre; however, the Audit Team visited the site to assess the City’s overall construction oversight program. The Audit Team observed improper use of BMPs for perimeter control of sediment (see Appendix C, Photographs 16). Rock was observed onsite but had not

been put in place as a BMP (see Appendix C, Photograph 16). A lack of tracking control BMPs, such as track-out pads, was also observed. Sediment had been tracked offsite and onto Gurley Street (see Appendix C, Photographs 17 and 18). City staff discussed concerns regarding sediment control with site manager while onsite.

The Audit Team conducted a site visit to the future site of Natural Grocers at the corner of Gail Gardener Way and Willow Creek Road. No BMPs were installed onsite other than a small number of sediment waddles. During an initial exploratory site visit on March 21st the Audit Team observed a large volume of sediment laden stormwater discharging through a storm drain outlet near the southern edge of the site (see Appendix C, Photograph 19 and 20). On the following day, March 22nd, the amount of sediment and volume of runoff observed on the previous day were significantly reduced but active discharge continued. The storm drain outlet consisted of a circular opening in the ground with a yellow metal cage on top. The City inspector/City staff were not aware of the location to which the outlet drained but confirmed that it drained to the MS4. The outlet was surrounded radially by approximately eight waddles at varying distances from the outlet. The waddles had been compromised, were saturated and needed replacement. A significant portion of the runoff on the site appeared to be routed to this storm drain outlet and had eroded a path to that location. No additional BMPs to address sediment issues were observed by the Audit Team onsite.

Additional observations from construction at and around the Trader Joe's development located at 252 North Lee Boulevard included: lack of controls around stockpiles; lack of tracking controls for private projects; and lack of proper BMP implementation.

The Audit Team recommends the City improve their construction oversight program by: (1) encouraging efforts to provide enhanced consistency and continuity between the public and private construction site oversight obligations and expectations, inspection process and inspector; (2) ensuring the effective use and maintenance of perimeter control BMPs to ensure against sediment-laden discharges to the MS4; (3) encouraging and/or requiring more effective BMPs on the internal areas of sites; and (4) responsibilities focusing equally on erosion control methods for both public and private sites.

Section 2.5 Post-Construction Stormwater Management in New Development and Redevelopment

As stated in Part V, Section B.5.a of the Permit, *Post-Construction Stormwater Management in New Development and Redevelopment*, the City is required to “develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, and discharge into the small MS4”. The post-construction stormwater management program must include, at a minimum, the specific requirements in Part V, Sections B.5. (b) – (e) of the Permit.

Potential Non-Compliance:

2.5.1 The City did not have a long-term operation and maintenance program for installed BMPs. Part V, Section B.5.d of the Permit requires the City to “Ensure adequate long-term operation and maintenance of BMPs.”

The Audit Team formally requested the Permittee provide “Records of post-construction BMP maintenance inspections (most recent Reporting Year), if any” and “Requirements for long-term operation and maintenance of post-construction BMPs, if any” (see Appendix B, Exhibit 2, Item No. 28 and 29). The City staff was unable to provide the Audit Team with documentation of post-construction

BMP maintenance procedures or records of inspections. City Staff stated that this portion of the program had not yet been developed or implemented.

As required by the Permit, the City must develop an inventory of current post-construction BMPs and implement procedures to track and inventory future BMPs developed under the new drainage criteria manual. Establishing a tracking system would allow all new post-construction controls to be accounted for and help ensure proper long-term operation and maintenance. Additionally, the Audit Team recommends the City develop a long-term maintenance program to link the new drainage criteria manual to operation and maintenance requirements.

Deficiency Noted:

2.5.2 The City did not provide programmatic documentation of a program to address stormwater runoff from applicable new development and redevelopment. Part V, Section B.5.a of the Permit requires the City to “Develop, implement and enforce a program to address stormwater runoff from new and redevelopment projects that disturb greater than or equal to one acre” and “The program must insure that controls are in place that would prevent or minimize water quality impacts.”

While potential deficiencies were found in program documentation for post-construction at the time of the audit, City staff informed the Audit Team of a new drainage criteria manual in the final stages of completion that will provide guidance for post-construction BMP installation for commercial and residential projects. City staff stated that the manual would be completed and adopted within 2012.

BMPs were observed by the Audit Team in areas around the City. Detention was observed on some commercial and large residential development sites and treatment controls were also observed at some commercial establishments.

The Audit Team formally requested the Permittee provide “All post-construction related ordinances and regulatory mechanisms pertaining to development and redevelopment.” (see Appendix B, Exhibit 2, Item No. 23). While the City staff provided the ordinance titled “2007 City of Prescott Post Construction Stormwater Runoff Regulation Code” (see Appendix B, Exhibit 4) (hereafter, the Ordinance), the Audit Team found the actions of the program to be inconsistent with the requirements of the Ordinance. For example, the City of Prescott Drainage Criteria Manual is referenced in Section 5.3 of the Ordinance as follows: “It is presumed that STP [Stormwater Treatment Practice] complies with this performance standard if it is:....2. Designed according to the specific performance criteria outlined in the City of Prescott Drainage Criteria Manual, ADEQ, or ADOT manual.” As stated above, City staff had indicated to the Audit Team that the drainage criteria manual would not be completed until later in 2012. Additionally, the City provided no documentation that post-construction BMPs were designed to standards listed in ADEQ or ADOT manuals as referenced in the Ordinance.

The City did not provide additional documentation requested including: an example post-construction BMP plan, a post-construction plan review checklist, a post-construction BMP manual and design standards, or a database of post-construction BMPs. A current inventory of post-construction BMPs was not available from the City, and mechanisms to track and inventory existing and new post-construction controls were not in place. Additionally, the City could not verbally explain the rationale for the implementation of the post-construction BMPs observed in the City.

In summary, the Audit Team found that the City did not produce programmatic documentation of a post-construction program.

As required by the Permit, the City must ensure implementation of a program to address stormwater runoff from new development and redevelopment projects. The City should document compliance

activities for addressing runoff from new development and redevelopment. Additionally, the City should update the SWMP to include a description of compliance activities. The Audit Team recommends that the City completes the drainage criteria manual and provides education/training to the development community on requirements and specifications contained in the manual. The manual should dictate, in detail, the requirements for post-construction BMP implementation.

Section 2.6 Monitoring

Part V, Section F, *Monitoring*, of the Permit states, “If the permittee discharges to a 303(d) listed water that contains, or may contain, pollutant(s) for which the waterbody is listed, the permittee must monitor to determine if BMPs are effective to control discharges of pollutants of concern.”

Potential Non-Compliance:

2.4.1 The City had not conducted required monitoring of 303(d) listed receiving waters; did not possess sampling data collected from 303(d) listed receiving streams; and had not submitted data with recent annual reports. Part V, Section F of the Permit, stated above, requires the Permittee to monitor to determine if BMPs are effective at controlling pollutants of concern for discharges to impaired waters. Section B.5 of the City’s 2011 Annual Report (see Appendix F) indicates that the City had not conducted analytical monitoring of stormwater quality. City staff conveyed to the Audit Team that monitoring for pollutants of concern had been conducted on Granite Creek by Prescott Creeks volunteers between February and August of 2010. Staff further stated that they did not possess data from this monitoring activity; the data was kept by Prescott Creeks.

The City also indicated that Granite Creek monitoring data had not been submitted with past annual reports as required in Part V, Section G.1.b of the Permit which requires the inclusion in the annual report of “Results of information collected and analyzed, if any, during the reporting period, including monitoring data used to assess the success of the program at reducing the discharge of pollutants to the MEP.”

As required by the Permit, the City must initiate monitoring for all 303(d) listed water to which the City system discharges pollutants of concern. Additionally, the City should acquire all data collected by Prescott Creeks, examine the data for application within the decision making processes of the City and submit all results with the next annual report.

Section 2.5 Additional Observations

The Audit Team made several additional observations during the audit. Descriptions of the observations and recommendations are provided below.

- In addition to updating and improving the SWMP, the City may consider the benefit of Standard Operating Procedures (SOPs) for each MCM to ensure the retention of institutional knowledge and to aid in daily implementation of the program.
- The City may consider the benefit of City-wide knowledge of the Permit and the stormwater program to facilitate understanding and a collective effort towards compliance and improved water quality.
- As an overarching programmatic recommendation, the City is encouraged to consider instituting a recordkeeping process for each MCM to comply with the SWMP and allow for tracking of various activities.
- As a recommendation for improving the public education and outreach program, the City may consider enhanced efforts to measure the effectiveness of the existing public education and

outreach program within the community. The efforts could be tailored to measure awareness and behavioral changes based on the current program management. Additionally, the City may consider developing a branding message for the stormwater program to communicate to City management and the citizen base conveying the overall objective of the program.

- The City may want to consider defining the term “illicit discharge” and publicizing the definition to City employees and the public to aid in the recognition and response to pollution entering the storm drain system and receiving waters.
- The upcoming industrial pretreatment program implementation may be a great opportunity for collaboration with the IDDE program in the areas of City inspections and recordkeeping for illicit discharges. City staff may consider leveraging the stormwater and industrial pretreatment program efforts for mutual benefit.
- The City is encouraged to include measurable goals for municipal maintenance in the SWMP including: repairs; street sweeping; and catch basin maintenance.
- An inventory of municipal facilities and practices should be considered as a method to perform facility inspections and periodically evaluate facilities that do not necessarily need Multi-Sector General Permit (MSGP) coverage.
- Observations by the Audit Team lead the team to recommend that a greater emphasis be placed on sediment control throughout the City. This might take the form of further training for inspection staff on current sediment control BMPs, educational materials/training for the local private development community, or increased emphasis on sediment control during pre-construction meetings and site inspections.
- The City may consider establishing a program to guide the development community to design and implement post-construction controls that address identified pollutants of concern.



Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, Arizona 85007

**MUNICIPAL SEPARATE STORM
SEWER SYSTEM (MS4)
COMPLIANCE AUDIT**

CITY OF PRESCOTT

AUDIT REPORT

**Audit Date:
March 21–22, 2012**

**Report Date:
May 24, 2012**

Executive Summary

On March 21-22, 2012, the U.S. Arizona Department of Environmental Quality (ADEQ) contractor, PG Environmental, LLC (hereinafter, PG), conducted an audit of the City of Prescott Municipal Separate Storm Sewer System (MS4) Program with assistance from ADEQ staff (hereinafter, collectively, the Audit Team).

This audit report identifies potential non-compliance, program deficiencies, and positive attributes and is not a formal finding of violation. Program deficiencies are areas of concern for successful program implementation. Positive attributes indicate overall progress in implementing the Program.

Several elements of the City's MS4 Program were particularly notable:

1. The City had a beneficial partnership with, and sponsorship of, Prescott Creeks and the Watershed Improvement Council which it used to leverage resources including: public education in the form of pamphlets; outreach in the form of stream cleanups and other activities; and illicit discharge surveys and monitoring along impaired streams.
2. The City was in the final stages of developing a comprehensive industrial pretreatment program that might provide areas of collaboration with illicit discharge screening and recordkeeping.
3. The City had recently submitted Notice of Intents for Multi-Sector General Permit (MSGP) coverage for multiple municipal facilities, and was in the process of training key staff on associated Stormwater Pollution Prevention Plans (SWPPPs).
4. The City had provided effective erosion control practices on roadway cut slopes at City sponsored construction projects.
5. Multiple abandoned development project sites throughout the City had been left in relatively stable and controlled conditions from a stormwater perspective.
6. The City was in the process of developing a drainage criteria manual to address drainage and post-construction BMPs specific to the area.
7. City construction inspection staff were knowledgeable and extensively involved in all Capital Improvement Projects (CIPs).
8. The City appeared to have a thorough inventory of current disturbed construction sites.

The following potential non-compliance and program deficiencies are considered, by the Audit Team, to be the most significant:

1. The City's Stormwater Management Program (SWMP) did not accurately reflect current program components.
2. The City's Illicit Discharge Detection and Elimination (IDDE) program did not clearly identify the location of all outfalls from the storm sewer system.
3. The City had not performed comprehensive dry weather field screening on outfalls/storm sewer system.
4. The City had not conducted pollution prevention/good housekeeping training for all municipal employees.
5. Concerns pertaining to improper pollution prevention practices were noted during site visits at municipal facilities conducted as a component of the audit.
6. Inadequate and inappropriate uses of BMPs to effectively control potential stormwater pollutants at private construction projects were noted during site visits.
7. The City did not provide programmatic documentation of a program to address stormwater runoff from applicable new development and redevelopment.
8. The City did not have a long-term operation and maintenance program for installed post construction BMPs.

9. The City had not conducted required monitoring of 303(d) listed receiving waters; did not possess sampling data collected from 303(d) listed receiving streams; and had not submitted data with recent annual reports.

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Section 1.0 Introduction

On March 21–22, 2012, the Arizona Department of Environmental Quality (ADEQ) contractor, PG Environmental, LLC, with assistance from ADEQ staff (hereinafter, collectively, the Audit Team) conducted an audit of the City of Prescott Municipal Separate Storm Sewer System (MS4) Program.

The City of Prescott is approximately 41.5 square miles in area and is located predominantly within the Granite Creek Watershed. Two lakes are in the vicinity of the City: Willow Lake and Watson Lake. The City is located near the towns of Chino Valley and Prescott Valley and all three cities are within Yavapai County. The City is located within the Yavapai County Flood Control District. According to the City's Storm Water Management Program (hereafter, SWMP) the City has approximately 400 miles of streets and storm sewers.

Section 1.1 Permit and Storm Water Management Plan

Discharges from the City of Prescott (hereinafter, the City or Permittee) MS4 are regulated under the provisions of the Arizona Pollutant Discharge Elimination System program (Arizona Revised Statutes, Title 49, Chapter 2, Article 3.1 and Arizona Administrative Code, Title 18, Chapter 9, Articles 9 and 10), Permit No. AZG2002-002, *State of Arizona Pollutant Discharge Elimination System General Permit for Discharge from Small Municipal Separate Storm Sewer Systems (MS4s) to Waters of the United States*, (hereinafter, the Permit), effective December 19, 2002. The Permit expired on December 19, 2007, but has been administratively extended by ADEQ.

The Permit authorizes the City to discharge stormwater runoff and certain non-stormwater discharges from its Small MS4 to waters of the United States, under the Permit terms and conditions. Section A of Part V, *Storm Water Management Program (SWMP)*, of the Permit requires the City to develop, implement, and enforce a SWMP designed to reduce the discharge of pollutants from the regulated Small MS4 to the maximum extent practicable (MEP) to protect water quality.

Pursuant to Part V of the Permit, the Permittee developed a SWMP (the SWMP is dated May 2006). The City was first permitted in December 2002, and it has been developing its MS4 Program since that time. At the time of this audit, the City was in Permit Year ten.

Section 1.2 Purpose of Audit

The purpose of the audit was to obtain information that will assist ADEQ in assessing the City's compliance with the requirements of the Permit and associated SWMP, as well as, the implementation status of the City's SWMP. The audit schedule is presented as Appendix A. The Exhibit Log and Photograph Log are provided as Appendices B and C, respectively. Copies of the Permit, SWMP, and 2011 Annual Report are included as Appendices D, E, and F, respectively.

Section 1.3 Program Areas Evaluated

The audit focused on the MS4 Program components and associated Permit requirements with the following Minimum Control Measures (MCMs):

- | | |
|-------|---|
| MCM 1 | Public Education and Outreach |
| MCM 2 | Public Involvement/Participation |
| MCM 3 | Illicit Discharge Detection and Elimination |
| MCM 4 | Construction Site Stormwater Runoff Control |

- MCM 5 Post-Construction Stormwater Management in New Development and
Redevelopment
- MCM 6 Pollution Prevention/Good Housekeeping for Municipal Operations

The Audit Team did not observe deficiencies regarding MCM's 1 and 2 during the audit; therefore, no further discussion of these MCMs is included in this report. Observations regarding the City's implementation of MCM's 3-6, overall observations, and monitoring requirements have been included in this report.

Section 1.4 Audit Process

The Audit Team obtained information through a series of interviews with representatives from the City's Public Works Department, along with a series of site visits, record reviews, and field verification activities. It should be noted that this audit report does not attempt to comprehensively describe all aspects of the City's SWMP, fully document all lines of questioning conducted during personnel interviews, or document all in-field verification activities conducted during site visits.

ADEQ contractor representatives presented their credentials at the opening meeting held at the Public Works Department. A sign in sheet from that meeting is presented in Appendix B, Exhibit 1. The primary representatives involved in the audit were the following:

City of Prescott MS4 Audit: March 21-22, 2012	
Public Works Department	Gregg Toth, City Drainage Engineer Gwen Rowitsch, Engineering Technician
Arizona Department of Environmental Quality	Eileen Dunn, Project Manager – Hydrologist, Surface Water Section, Permits Unit Cristian Kistemann, Enforcement Officer, Water Quality Compliance Enforcement Unit Peter Jagow, Compliance Inspector. Water Quality Industrial Field Services Unit
ADEQ Contractors	Wes Ganter, PG Environmental, LLC Candice Owen, PE, PG Environmental, LLC

Section 2.0 Program Evaluation Results

This audit report identifies potential non-compliance, program deficiencies, and positive attributes and is not a formal finding of violation. Program deficiencies are areas of concern for successful program implementation. Positive attributes indicate a permittee's overall progress in implementing the SWMP. The Audit Team documented only positive attributes that were innovative (beyond minimum requirements). Some areas were found to be simply adequate; that is, neither particularly deficient nor innovative.

During the audit, the Audit Team obtained documentation and other supporting evidence regarding compliance with the Permit and associated SWMP. The SWMP contains program requirements, summaries of current program areas, and selected Best Management Practices (BMPs) with implementation schedules.

Section 2.1 Program Management

Part V, *Storm Water Management Program (SWMP)*, of the Permit requires the City to develop, implement, and enforce a SWMP. Specific requirements and components related to the City's program are outlined in Part V, Sections B – G of the Permit. Descriptions and details regarding the audit observations, as well as, supporting documentation regarding the program are provided in this section.

Deficiency Noted:

2.1.1 The City's Stormwater Management Program (SWMP) did not accurately reflect current program components. Part V, Section E.1 of the Permit states "The permittee shall annually review the SWMP in conjunction with preparation of the annual report required under Part V, Section G." City staff confirmed that the City's SWMP had not been updated since its development in 2006. Additionally, City staff indicated to the Audit Team that the SWMP was not reflective of current City MS4 program components.

Upon review, the Audit Team found multiple instances of conflicting information between the SWMP and the 2011 Annual Report (Appendix F). Two examples are provided. Example 1: BMP 3-3 of the Annual Report states the Implementation Status of the Program to Detect and Address Illicit Discharges is "Ongoing. We have been coordinating with the Fire Department to assure proper procedures are in place in handling Illicit Discharges." Yet, BMP 3-3 of the SWMP states "Program implementation will involve at a minimum, annual dry weather field screening for non-stormwater flows at all 3,000 designated outfalls. The screening will include qualitative field tests based on color, odor, or visually observed characteristics as indicators of illicit discharge sources. If the qualitative field tests do not provide enough information for the City to determine the source of the discharge, the discharge will be tested, while in the field, for selected chemical parameters." The connection between these two statements for BMP 3-3 was unclear to the Audit Team.

Example 2: The projected "Due Dates" for each BMP listed in the SWMP are not amended to reflect the current program, and range from August 2003 to December 2007. Multiple due dates also conflict with information provided in the 2011 Annual Report. For example, Section 3.3.1.2 of the SWMP provides an "Implementation Complete Date" of March 2007 for mapping the City's storm sewer system. The comment area for "3-1 Map Storm Sewer System" on page 3 of the City's 2011 Annual Report states "We are in the process of developing our GIS system to include a comprehensive storm sewer layout with attributes for each link and outflow point." Additionally, a "Target Completion Date" is not assigned for this BMP.

As required by the Permit, the City must review the SWMP annually. Additionally, the Audit Team recommends the City commit to making this update an iterative process and an opportunity for program evolution. The SWMP updates should include language to meet permit requirements and help guide actions required of the program.

For the reasons stated above the Audit Team did not attempt to determine compliance in this report based on SWMP component language or implementation schedules.

Section 2.2 Illicit Discharge Detection and Elimination

Part V, Section B.3.a, *Illicit Discharge Detection and Elimination*, of the Permit requires the City to develop, implement, and enforce an illicit discharge detection and elimination (hereinafter, IDDE) program. Specific requirements and components related to the City's IDDE program are outlined in Part V, Sections B.3 (b) - (g) of the Permit. Descriptions and details regarding the audit observations, as well as supporting documentation, regarding this MCM are provided in this section.

Potential Non-Compliance:

2.2.1 The City's IDDE program did not clearly identify the location of all outfalls from the storm sewer system. Part V, Section B.3.b of the Permit states that the City shall "develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls."

The Audit Team submitted a Records Request, via email, to the City on March 12, 2012 and solicited the Permittee to provide "Storm drain system map and onsite demonstration of any associated mapping tools. Emphasize layers/mapping that informs the MS4 program activities (e.g., storm drain system, structural controls, outfalls, receiving waters, etc.)" (see Appendix B, Exhibit 2, Item No. 7).

During the audit, this request was again repeated by the Audit Team. The City did not provide the Audit Team with a map that showed the locations of all outfalls and waterways. City staff indicated that mapping was "limited" with portions of the system already mapped, but that the City was in the process of conducting hydrologic and hydraulic drainage studies with funding from the Flood Control District that would take inventory of the storm sewer system including outfalls. City staff were unsure when the studies would be completed.

Per requirements in the Permit and the SWMP, the City should inventory and map all outfalls to the municipal storm sewer system.

2.2.2 The City had not performed comprehensive dry weather field screening on outfalls. Part V, Section B.3.f of the Permit states that the City shall "Conduct dry weather field screening for non-stormwater flows. The screening must include qualitative field tests based on color, odor, or visually observed characteristics as indicators of discharge sources." Section 3.3.3.1 of the City's SWMP states, "Program implementation will involve at a minimum, annual dry weather field screening for non-stormwater flows at all 3,000 designated outfalls. The screening will include qualitative field tests based on color, odor, or visually observed characteristics as indicators of illicit discharge sources. If the qualitative field tests do not provide enough information for the City to determine the source of the discharge, the discharge will be tested, while in the field, for selected chemical parameters."

The Audit Team formally requested the Permittee provide "A representative schedule, map, or description of any outfall inspection program used to identify illicit discharges and/or connections." and "An inventory of businesses, entities, or areas inspected, visited, or observed as part of the illicit discharge program. Also provide a copy of the inspection form used by city inspectors." (see Appendix B, Exhibit

2, Item No. 8 and 9). During the audit, the City staff did not provide the Audit Team with record of having conducted annual dry weather field screening of 3,000 outfalls or the storm sewer system. The City staff stated that a survey of a selection of outfalls had been completed in 2010 by the watershed group Prescott Creeks, but City staff could not provide this information and acknowledged that they do not believe the storm system has 3,000 outfalls.

As required by the Permit, the City must perform and document annual dry weather screening of all identified outfalls based on a comprehensive outfall survey consistent with the Permit and in accordance with the future SWMP updates. Additionally, the City should modify the SWMP to reflect current outfall inventory and screening practices.

Deficiency Noted:

2.2.3 The City did not have a system in place to record illicit discharge incident information.

The Audit Team also formally requested an “Onsite demonstration of the database or system used to record illicit discharge incident information. As part of this effort, 2 - 3 hardcopy examples of a completed illicit discharge incident that includes identification, response, and remedy. At least one of the examples should include an example/case file of an incident where enforcement was used (ideally full extent of enforcement authority).” (see Appendix B, Exhibit 2, Item No. 10). No form of illicit discharge incident recordkeeping was provided to the Audit Team. City staff indicated that calls were directed to Gregg Toth, City drainage engineer, who investigated each incidence as soon as feasible. Additionally, an incidence report form is located on the Prescott Creeks website; however the City did not possess a record of any reported incidences from the website. In summary, the Audit Team determined the City was not maintaining records of past and/or ongoing illicit discharges.

The Audit Team recommends, the City develop a system to record illicit discharge incidents.

Section 2.3 Pollution Prevention/Good Housekeeping for Municipal Operations

Part V, Section B.6.a, *Pollution Prevention/Good Housekeeping for Municipal Operations*, of the Permit requires the City “develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations due to activities, including but not limited to park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance.” Provisions in Part V, Sections B.6.a. (i)-(iii) establish specific requirements to be addressed as part of the operation and maintenance program.

Deficiency Noted:

2.3.1 The City had not conducted pollution prevention/good housekeeping training for municipal employees. Part V, Section B.6.a of the Permit requires the City to “Develop and implement an operation and maintenance program that includes a training component.”

The Audit Team formally requested the Permittee provide “Municipal employee training records and syllabus (i.e., training content) on pollution prevention and IDDE.” (see Appendix B, Exhibit 2, Item No. 32). During the audit, City staff provided a Training Outline that included multiple types of training for various City employees scheduled to be conducted in 2012 (see Appendix B, Exhibit 3). City staff indicated that the City was currently in the process of training facility supervisors on requirements of newly implemented SWPPPs. Staff also conveyed that the City had plans to create a training film for all employees. During the audit, line staff at multiple municipal facilities stated that they had not received training on the MS4 permit or components of pollution prevention and good housekeeping. City staff

stated that training had yet to be provided to line staff. Additionally, no training records or additional materials were provided to the Audit Team.

As required by the Permit, the City should evaluate its planned training program to ensure it reaches all municipal employees whose job responsibilities may have the potential to impact stormwater. Additionally, the City should update the SWMP to include a description of the training program once it is implemented and should identify the person(s) responsible for training. The Audit Team recommends the City maintain records of training documenting attendance and types of training conducted.

2.3.2 Concerns pertaining to improper pollution prevention practices were noted during site visits at municipal facilities. Part V, Section B.6.a.ii of the Permit states that the permittee must address “Controls to reduce or eliminate the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet maintenance shops with outdoor storage areas, and salt and sand storage locations and snow disposal areas.” The Audit Team conducted site visits at four municipal facilities: Fleet Facility; Sundog Road Waste Water Treatment Plant (hereafter, WWTP); Sundog Yard, Transfer and Streets Facility; and the City-owned golf course. No issues were identified at the golf course or Fleet Facility. Sampling locations and outfalls to facilitate SWPPP compliance were not designated at the WWTP. Concerns at the Sundog Yard are provided, below.

During a site visit at the Sundog Yard, Transfer and Streets Facility, the Audit Team observed the following improper pollution prevention and good housekeeping practices:

- Washing of metal fabrication waste from a concrete pad into an adjacent concrete stormwater conveyance flowing northwest under the perimeter fence was observed (see Appendix C, Photographs 1 and 2). After flowing under the fence the water flowed into an onsite earthen drainage ditch. While newer in construction, the pad did not include controls for treatment and/or disposal of wash water. Two additional wash areas were located onsite and were readily available for use. One wash pad was connected to an oil water separator (see Appendix C, Photograph 3) and provided an alternative wash area better equipped to receive wash water.
- Excess/spilled bonding dust suppression agent was present in two separate areas on the southwestern end of the site. City staff explained that procedures for mixing the agent include combining the agent and millings on the ground and mixing them with equipment.
- A dry well centrally located onsite was suspected by ADEQ staff to require an Aquifer Protection Permit (APP) application/NOI (see Appendix C, Photograph 4). The ADEQ staff member stated she would follow up with the City to aid in determining applicable requirements for the dry well. Dry well regulations are contained in Arizona Revised Statutes §§ 49-331 through 49-336.
- Sampling locations and outfalls to facilitate SWPPP compliance were not designated at the Sundog Yard.

As required by the Permit, the City must implement controls to reduce or eliminate the discharge of pollutants from municipal facilities. These controls should include best management practices to facilitate good housekeeping. For this reason, the City should perform the following at the Sundog Yard and WWTP to address improper pollution prevention measures found there: dry sweep metal fabrication wastes; clean up any excess millings additive left on the yard, as soon as possible, after activities; coordinate with ADEQ on an application/NOI for the dry well located at the yard; and install signage, to indicate stormwater outfalls identified in all facilities’ SWPPPs.

Section 2.4 Construction Site Stormwater Runoff Control

Part V, Section B.4.a, *Construction Site Stormwater Runoff Control*, of the Permit requires the Permittee to “develop, implement, and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre.” The Construction Site Stormwater Runoff Control Program must include, at a minimum, the specific requirements listed in Part V, Sections B.4. (b) – (e) of the Permit.

During the audit, the City possessed a thorough inventory of current disturbed construction sites. From this inventory, the Audit Team conducted site visits at a total of five active construction sites and multiple inactive sites. Two of the active sites were City-owned projects administered by the City’s Public Works Department, the third active site was a private car wash of less than one acre in area located at 915 East Gurley Street, the fourth was the future site of Natural Grocers located at the corner of Gail Gardener Way and Willow Creek Road, and the fifth site was the Trader Joe’s development on North Lee Boulevard.

The inactive construction sites visited were large subdivisions of single family homes located in the areas off of Prescott Lakes Parkway northwest of Highway 89 (see Appendix C, Photographs 5 and 6). Overall, inactive sites were found to be adequately stabilized with regards to possible sources of pollution to the MS4.

The City’s Capital Improvement Projects (CIPs) observed by the Audit Team were utilizing the appropriate erosion and sediment control BMPs, and City contractors confirmed the presence of City inspectors onsite the majority of work days. The Audit Team found City inspectors to be knowledgeable about each of the CIPs. Additionally, slope stability on City projects was adequate on two sites (see Appendix C, Photographs 7 and 8). Adequate BMPs were installed at the North Reservoir Reconstruction Project, located off of Douglas Avenue, including: trackout pad, lined concrete washout pit, and appropriate erosion and sediment control measures for ditches on Douglas Avenue affected by the project (Appendix C, Photographs 9 and 10). Adequate BMPs were installed at the Williamson Valley Road Reconstruction Project, located near the intersection of Williamson Valley Road and Iron Springs Road, including: staked straw waddles, rock check dams, and strategically placed velocity controls (see Appendix C, Photographs 11 through 15). The site operator explained that BMPs had been monitored throughout the snow melt and had been replaced or corrected as needed.

Observations and findings at the three private sites are discussed in Sections 2.4.1, below. The purpose of the site visits was to assess the City’s oversight activities for stormwater compliance at construction sites. It should be noted that the City was experiencing melting from approximately twelve inches of snow during the site visits. Summary observations pertaining to these sites are presented where they directly pertain to the City’s oversight obligations under the Permit.

Deficiency Noted:

2.4.1 Inadequate and inappropriate uses of BMPs to effectively control potential stormwater pollutants at private construction projects. Part V, Section B.4.a of the Permit requires the City to “Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre.”

The Audit Team conducted a site visit at the Flyz Toy Tub Car Wash located at 915 East Gurley Street. It should be noted that this site was less than 1 acre; however, the Audit Team visited the site to assess the City’s overall construction oversight program. The Audit Team observed improper use of BMPs for perimeter control of sediment (see Appendix C, Photographs 16). Rock was observed onsite but had not

been put in place as a BMP (see Appendix C, Photograph 16). A lack of tracking control BMPs, such as track-out pads, was also observed. Sediment had been tracked offsite and onto Gurley Street (see Appendix C, Photographs 17 and 18). City staff discussed concerns regarding sediment control with site manager while onsite.

The Audit Team conducted a site visit to the future site of Natural Grocers at the corner of Gail Gardener Way and Willow Creek Road. No BMPs were installed onsite other than a small number of sediment waddles. During an initial exploratory site visit on March 21st the Audit Team observed a large volume of sediment laden stormwater discharging through a storm drain outlet near the southern edge of the site (see Appendix C, Photograph 19 and 20). On the following day, March 22nd, the amount of sediment and volume of runoff observed on the previous day were significantly reduced but active discharge continued. The storm drain outlet consisted of a circular opening in the ground with a yellow metal cage on top. The City inspector/City staff were not aware of the location to which the outlet drained but confirmed that it drained to the MS4. The outlet was surrounded radially by approximately eight waddles at varying distances from the outlet. The waddles had been compromised, were saturated and needed replacement. A significant portion of the runoff on the site appeared to be routed to this storm drain outlet and had eroded a path to that location. No additional BMPs to address sediment issues were observed by the Audit Team onsite.

Additional observations from construction at and around the Trader Joe's development located at 252 North Lee Boulevard included: lack of controls around stockpiles; lack of tracking controls for private projects; and lack of proper BMP implementation.

The Audit Team recommends the City improve their construction oversight program by: (1) encouraging efforts to provide enhanced consistency and continuity between the public and private construction site oversight obligations and expectations, inspection process and inspector; (2) ensuring the effective use and maintenance of perimeter control BMPs to ensure against sediment-laden discharges to the MS4; (3) encouraging and/or requiring more effective BMPs on the internal areas of sites; and (4) responsibilities focusing equally on erosion control methods for both public and private sites.

Section 2.5 Post-Construction Stormwater Management in New Development and Redevelopment

As stated in Part V, Section B.5.a of the Permit, *Post-Construction Stormwater Management in New Development and Redevelopment*, the City is required to “develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, and discharge into the small MS4”. The post-construction stormwater management program must include, at a minimum, the specific requirements in Part V, Sections B.5. (b) – (e) of the Permit.

Potential Non-Compliance:

2.5.1 The City did not have a long-term operation and maintenance program for installed BMPs. Part V, Section B.5.d of the Permit requires the City to “Ensure adequate long-term operation and maintenance of BMPs.”

The Audit Team formally requested the Permittee provide “Records of post-construction BMP maintenance inspections (most recent Reporting Year), if any” and “Requirements for long-term operation and maintenance of post-construction BMPs, if any” (see Appendix B, Exhibit 2, Item No. 28 and 29). The City staff was unable to provide the Audit Team with documentation of post-construction

BMP maintenance procedures or records of inspections. City Staff stated that this portion of the program had not yet been developed or implemented.

As required by the Permit, the City must develop an inventory of current post-construction BMPs and implement procedures to track and inventory future BMPs developed under the new drainage criteria manual. Establishing a tracking system would allow all new post-construction controls to be accounted for and help ensure proper long-term operation and maintenance. Additionally, the Audit Team recommends the City develop a long-term maintenance program to link the new drainage criteria manual to operation and maintenance requirements.

Deficiency Noted:

2.5.2 The City did not provide programmatic documentation of a program to address stormwater runoff from applicable new development and redevelopment. Part V, Section B.5.a of the Permit requires the City to “Develop, implement and enforce a program to address stormwater runoff from new and redevelopment projects that disturb greater than or equal to one acre” and “The program must insure that controls are in place that would prevent or minimize water quality impacts.”

While potential deficiencies were found in program documentation for post-construction at the time of the audit, City staff informed the Audit Team of a new drainage criteria manual in the final stages of completion that will provide guidance for post-construction BMP installation for commercial and residential projects. City staff stated that the manual would be completed and adopted within 2012.

BMPs were observed by the Audit Team in areas around the City. Detention was observed on some commercial and large residential development sites and treatment controls were also observed at some commercial establishments.

The Audit Team formally requested the Permittee provide “All post-construction related ordinances and regulatory mechanisms pertaining to development and redevelopment.” (see Appendix B, Exhibit 2, Item No. 23). While the City staff provided the ordinance titled “2007 City of Prescott Post Construction Stormwater Runoff Regulation Code” (see Appendix B, Exhibit 4) (hereafter, the Ordinance), the Audit Team found the actions of the program to be inconsistent with the requirements of the Ordinance. For example, the City of Prescott Drainage Criteria Manual is referenced in Section 5.3 of the Ordinance as follows: “It is presumed that STP [Stormwater Treatment Practice] complies with this performance standard if it is:....2. Designed according to the specific performance criteria outlined in the City of Prescott Drainage Criteria Manual, ADEQ, or ADOT manual.” As stated above, City staff had indicated to the Audit Team that the drainage criteria manual would not be completed until later in 2012. Additionally, the City provided no documentation that post-construction BMPs were designed to standards listed in ADEQ or ADOT manuals as referenced in the Ordinance.

The City did not provide additional documentation requested including: an example post-construction BMP plan, a post-construction plan review checklist, a post-construction BMP manual and design standards, or a database of post-construction BMPs. A current inventory of post-construction BMPs was not available from the City, and mechanisms to track and inventory existing and new post-construction controls were not in place. Additionally, the City could not verbally explain the rationale for the implementation of the post-construction BMPs observed in the City.

In summary, the Audit Team found that the City did not produce programmatic documentation of a post-construction program.

As required by the Permit, the City must ensure implementation of a program to address stormwater runoff from new development and redevelopment projects. The City should document compliance

activities for addressing runoff from new development and redevelopment. Additionally, the City should update the SWMP to include a description of compliance activities. The Audit Team recommends that the City completes the drainage criteria manual and provides education/training to the development community on requirements and specifications contained in the manual. The manual should dictate, in detail, the requirements for post-construction BMP implementation.

Section 2.6 Monitoring

Part V, Section F, *Monitoring*, of the Permit states, “If the permittee discharges to a 303(d) listed water that contains, or may contain, pollutant(s) for which the waterbody is listed, the permittee must monitor to determine if BMPs are effective to control discharges of pollutants of concern.”

Potential Non-Compliance:

2.4.1 The City had not conducted required monitoring of 303(d) listed receiving waters; did not possess sampling data collected from 303(d) listed receiving streams; and had not submitted data with recent annual reports. Part V, Section F of the Permit, stated above, requires the Permittee to monitor to determine if BMPs are effective at controlling pollutants of concern for discharges to impaired waters. Section B.5 of the City’s 2011 Annual Report (see Appendix F) indicates that the City had not conducted analytical monitoring of stormwater quality. City staff conveyed to the Audit Team that monitoring for pollutants of concern had been conducted on Granite Creek by Prescott Creeks volunteers between February and August of 2010. Staff further stated that they did not possess data from this monitoring activity; the data was kept by Prescott Creeks.

The City also indicated that Granite Creek monitoring data had not been submitted with past annual reports as required in Part V, Section G.1.b of the Permit which requires the inclusion in the annual report of “Results of information collected and analyzed, if any, during the reporting period, including monitoring data used to assess the success of the program at reducing the discharge of pollutants to the MEP.”

As required by the Permit, the City must initiate monitoring for all 303(d) listed water to which the City system discharges pollutants of concern. Additionally, the City should acquire all data collected by Prescott Creeks, examine the data for application within the decision making processes of the City and submit all results with the next annual report.

Section 2.5 Additional Observations

The Audit Team made several additional observations during the audit. Descriptions of the observations and recommendations are provided below.

- In addition to updating and improving the SWMP, the City may consider the benefit of Standard Operating Procedures (SOPs) for each MCM to ensure the retention of institutional knowledge and to aid in daily implementation of the program.
- The City may consider the benefit of City-wide knowledge of the Permit and the stormwater program to facilitate understanding and a collective effort towards compliance and improved water quality.
- As an overarching programmatic recommendation, the City is encouraged to consider instituting a recordkeeping process for each MCM to comply with the SWMP and allow for tracking of various activities.
- As a recommendation for improving the public education and outreach program, the City may consider enhanced efforts to measure the effectiveness of the existing public education and

outreach program within the community. The efforts could be tailored to measure awareness and behavioral changes based on the current program management. Additionally, the City may consider developing a branding message for the stormwater program to communicate to City management and the citizen base conveying the overall objective of the program.

- The City may want to consider defining the term “illicit discharge” and publicizing the definition to City employees and the public to aid in the recognition and response to pollution entering the storm drain system and receiving waters.
- The upcoming industrial pretreatment program implementation may be a great opportunity for collaboration with the IDDE program in the areas of City inspections and recordkeeping for illicit discharges. City staff may consider leveraging the stormwater and industrial pretreatment program efforts for mutual benefit.
- The City is encouraged to include measurable goals for municipal maintenance in the SWMP including: repairs; street sweeping; and catch basin maintenance.
- An inventory of municipal facilities and practices should be considered as a method to perform facility inspections and periodically evaluate facilities that do not necessarily need Multi-Sector General Permit (MSGP) coverage.
- Observations by the Audit Team lead the team to recommend that a greater emphasis be placed on sediment control throughout the City. This might take the form of further training for inspection staff on current sediment control BMPs, educational materials/training for the local private development community, or increased emphasis on sediment control during pre-construction meetings and site inspections.
- The City may consider establishing a program to guide the development community to design and implement post-construction controls that address identified pollutants of concern.



Janice K. Brewer
Governor

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Henry R. Darwin
Director

CERTIFIED MAIL
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June 18, 2012

Craig McConnell, Manager
City of Prescott
201 S. Cortez Street
Prescott, AZ 86302

Re: MS4 Audit; Permit No. AZG2002-002

Dear Mr. McConnell:

Enclosed is a copy of the *Municipal Separate Storm Sewer System Compliance Audit Report* for City of Prescott (the City). The audit was completed on March 21, and 22, 2012, by the Arizona Department of Environmental Quality's (ADEQ) Contractor, PG Environmental, LLC with assistance from ADEQ and participation and cooperation from your staff.

The purpose of the audit was to assess the City's compliance with the Arizona Pollutant Discharge Elimination System General Permit for Small Separate Municipal Separate Storm Sewer Systems (MS4s) to Waters of the United States (the Permit). The Permit authorizes the City to discharge storm water run-off and certain non-storm water discharges from its MS4 to waters of the United States, under the Permit terms and conditions.

The permit establishes minimum control measures for a storm water pollution control and management program. The audit reviewed implementation of the City's Storm Water Management Plan (SWMP) in light of the requirements established in the Permit. The audit included document reviews, interviews with City program managers, and field verification inspections. The audit report identified several elements of the City's MS4 Program that were particularly notable:

1. The City has a beneficial partnership with, and sponsorship of, Prescott Creeks and the Watershed Improvement Council which it uses to leverage resources including: public education in the form of pamphlets; outreach in the form of stream cleanups and other activities; and illicit discharge surveys and monitoring along impaired streams.

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2. The City is in the final stages of developing a comprehensive industrial pretreatment program that might provide areas of collaboration regarding illicit discharge screening and recordkeeping.
3. The City has recently submitted Notices of Intent for Multi-Sector General Permit (MSGP) coverage for multiple municipal facilities, and was in the process of training key staff on associated Stormwater Pollution Prevention Plans (SWPPPs).
4. The City has provided effective erosion control practices on roadway cut slopes at City sponsored construction projects.
5. Multiple abandoned development project sites throughout the City have been left in relatively stable and controlled conditions from a stormwater perspective.
6. The City is in the process of developing a drainage criteria manual to address drainage and post-construction BMPs specific to the area.
7. City construction inspection staff are knowledgeable and extensively involved in all Capital Improvement Projects (CIPs).
8. The City appears to have a thorough inventory of current disturbed construction sites.

The most significant program deficiencies identified during the audit were:

1. The City's SWMP did not accurately reflect current program components.
2. The City's Illicit Discharge Detection and Elimination program did not clearly identify the location of all outfalls from the storm sewer system.
3. The City had not performed comprehensive dry weather field screening on the outfalls/storm sewer system.
4. The City had not conducted pollution prevention/good housekeeping training for all municipal employees.
5. Concerns pertaining to improper pollution prevention practices were noted during site visits at municipal facilities conducted as a component of the audit.
6. Inadequate and inappropriate uses of BMPs to effectively control potential stormwater pollutants at private construction projects were noted during site visits.
7. The City did not provide documentation of a program to address stormwater runoff from applicable new development and redevelopment.
8. The City did not have a long-term operation and maintenance program for installed post construction BMPs.
9. The City had not conducted required monitoring of 303(d) listed receiving waters; did not possess sampling data collected from 303(d) listed receiving streams; and had not submitted data with recent annual reports.

I encourage the City to use the Audit Report findings as a guide for program improvements. Please respond to the audit report by July 1, 2012, with any clarify comments and any updates or proposed updates to address potential deficiencies on program enhancements. If you have any

concerns or questions or wish to set up a meeting with ADEQ to discuss the results of this audit, please contact me directly at (602) 771-2209.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Mindi Cross', is written over the typed name.

Mindi Cross, Manager
Water Quality Compliance Section
Arizona Department of Environmental Quality

Cc: Gregg Toth, City of Prescott, Public Works

